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January, 1908

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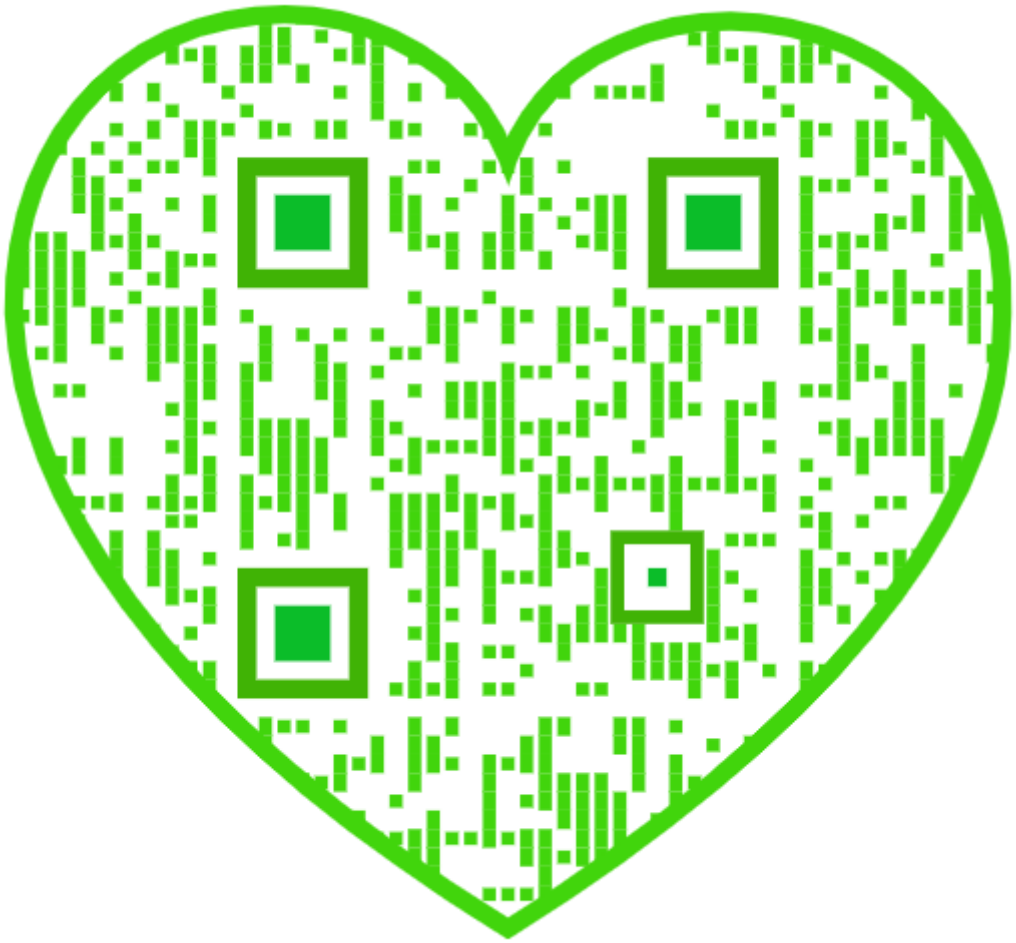
AMERICAN BEE JOURNAL

Hon. Geo. E. Hilton,
President National Bee-Keepers' Association
(See page 7)



American Bee Journal

THE AMERICAN BEE JOURNAL

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An Invitation to Readers

As the time of longer evenings is again arriving, we would like to invite our readers to send in their reports of the season of 1907 with the bees.

It may be, also, that some have been trying experiments, or have had some things to develop that would be of interest to all. If so, we would like to have such write out their experiences for publication, and send them in. No doubt what you have read in the American Bee Journal has been a great help to you, so why not *you* add your mite to the general fund of information about bees?

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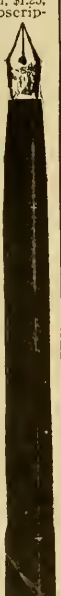

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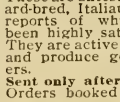

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Pure Air in the Bee-Cellar

Whatever the pains taken to ventilate a hive in the cellar, what can it amount to if the cellar itself be not well ventilated? If the air in the cellar be foul, how can anything but foul air get into the hive? Where a very few colonies are kept in a cellar, the problem of pure air would not be a difficult one if it were not that the bees are put in the same cellar in which are also placed the family supply of vegetables. Neither would the presence of vegetables be a serious matter if those vegetables were always in such nice and fresh condition as to be approved by the health officer. Unfortunately this is not always the case, especially where there is no health officer to interfere. The important thing is to keep a close supervision over the vegetables, frequently sorting them over and removing any and all that are no longer good. Instead of that, it is too often the case that everything is left till the spring cleaning, when bushels of rotten, stinking stuff are thrown out that ought never to have been allowed to remain. A single rotten head of cabbage will foul the air in the cellar more than the bees. For their sake, even if you care nothing for the health and lives of the people that live over it, use your eyes and your nose, and see that the air in the cellar has a fighting chance to be pure and sweet.

Loss in Feeding Bees

O. S. Rexford says this in Gleanings in Bee Culture:

"Friday evening, Oct. 4, I set a colony of bees on scales, weighed them carefully, and then fed them 8 pounds of granulated sugar dissolved in 7 pounds of water. I fed in a Miller feeder. The feed was all taken in 24 hours. The shrinkage in weight went on rapidly for about two days, and then slowly for several days till finally, Oct. 13, hive and bees weighed only 4 pounds more than before I fed.

"There was a young queen in the hive, but brood-rearing had stopped several days before, and there was no brood except what had advanced beyond the feeding stage. I looked over the frames yesterday, but saw no eggs or young brood.

"If this were the only experiment I had ever made I should not consider it important enough to publish; but I have made many in the last 15 or 18 years, and always with similar results, all seeming to show that bees do consume a large percent of sugar as honey fed them for winter use, or to store in sections—in this trial, 60 percent—when I know that if not fed, one pound would have been sufficient for the whole month of October."

Unless there be something exceptional in the experience of Mr. Rexford, some of our ideas with regard to feeding need revising. In any case, is it advisable, so late as Oct. 4, to feed syrup which is seven-fifteenths water?

Testing Honey as to Ripeness

Much is said from time to time as to the unwisdom of putting upon the market honey not thoroughly ripened. But how is the novice to tell whether his honey is ripe or not? Upon this point little or nothing has been said, and so is it any wonder that many a beginner does himself and other bee-keepers a mischief by putting unfit stuff on the market, only learning by painful experience to make some sort of a guess as to ripeness? Mr. I. Hopkins, the efficient government apiarist of New Zealand, in an address before a bee-convention reported in the New Zealand Farmer, Stock and Station Journal, gave something very specific upon the subject, and it would be a good thing if every producer of extracted honey on this side the globe would follow the advice of Mr. Hopkins, get a hydrometer, and never put upon the market a pound of honey testing below 1.400.

Mr. Hopkins made a great many tests, finding that below a certain density honey would take on fermentation, and above that it would keep all right. He said:

"The conclusions I have arrived at over the tests are, that all those registering 1.410 and upwards were thoroughly ripe, and would keep for any length of time under ordinary conditions. Those between 1.400 and 1.410, if not so ripe, would keep for a long time; but all those registering below 1.400 seemed to me to be doubtful in this respect. I shall keep specimens of each as you see them for testing by time. Now, what I wish you all to do is to obtain the apparatus yourselves, that is, each individual, and try for yourselves, so that you may learn to know for a certainty when your honey is ripe, and not depend upon guesswork. The appliances, hydrometer, glass, and thermometer cost only about $1.87 in all, so that they are within the reach of all of you; at all events the matter is one of so much importance that if they cost six times as much you ought to have them. Be sure, also, when making tests, to record them all for future reference, or they will be of very little use to you. Make tests of the honey directly it is extracted, and on each day afterward."

Light in the Bee Cellar.

A bee-cellar must be kept dark; that's the rule. It may be a question whether there should not be more exceptions to the rule than are generally allowed. Other things being equal, would bees not do better in a light than in a dark cellar? A man kept in the dark can not have the same vigor as one daily exposed to the full light of the sun. If the light is so good for a man, why not for a bee?

Why should a cellar be kept dark? The answer, no doubt, will be that if the

American Bee Journal

light be allowed in the cellar the bees will leave the hive, and a bee that leaves the hive in a cellar is generally a dead bee. But is it true that light will always make a bee desert a hive? Recall what may have been observed any fall. Suppose the temperature was 50 degrees Nov. 1, and that the bees outdoors had a good time flying, and then suppose the next day the thermometer never goes higher than it would be in the cellar, say 45 degrees. Never a bee leaves the hive. Doesn't need to; doesn't want to. And yet the bee-keeper who may have observed this a dozen of times, if his bees are in the cellar, and at the same temperature, on that second day of November, will feel it an absolute necessity that the cellar be absolutely dark.

It can not be denied that when bees have been confined for a considerable time in the cellar, and feel the need of a cleansing flight, the admission of light will cause many to leave the hive when darkness would oblige them to remain. But in the early part of winter, when there comes a warm spell, making it troublesome to keep the cellar properly ventilated, some who insist on keeping the cellar closed for fear of the admission of light, might be surprised to find how quiet the bees will remain with a door or window open, *provided* that the air in the cellar be all right, and that opening of door or window may be just the thing needed to make and keep the air all right.

Let each one experiment for himself, and not be too prompt to condemn the bees to darkness. If a warm spell comes, and the cellar needs cooling off, open doors and windows as soon as it grows dark in the evening, and do not darken up next day till the bees show they are disturbed by the light.

This matter is of special importance to those who have furnaces in cellars. One man with a furnace in his cellar says he does not find it necessary to darken his cellar for days after the bees are carried in, so long as the temperature does not go below 40. With doors and windows wide open the bees are much the same as on the summer stands, only enjoying milder weather. If asked whether bees do not fly out, he replied, "Sure. But don't they fly out of the hive in the dark? And how do you know that in the dark, with air less pure, two bees would not come out of the hive and drop on the floor for every one that flies out in the light with its pure air?"

How Soon do Bees Discover Queenlessness?

C. P. Dadant says, page 716, that he has often noticed bees showing signs of queenlessness within an hour after removal of the queen, though it sometimes takes less. Commenting on this, Gleanings says, page 16, "It is our opinion that it will seldom take longer than an hour, if it does that much, for bees to discover their queenless condition." This matter has a bearing upon the starting of queen-cells, and if these authorities be correct the time that it takes bees to discover their queenlessness is less than some have supposed. It would be well if exact observations could be made after *very quietly* removing the queen.

Exhibiting Granulated Honey

Dr. F. D. Clum, of New York State, wrote us as follows recently about exhibiting extracted honey:

EDITOR AMERICAN BEE JOURNAL—

I attended the 19th annual exhibition of the Poultry, Pigeon and Pet Stock Association, held in New York City this week, and while there I noticed a fine display of live bees, and honey, both in the comb and extracted. All of the latter was a clear, thin liquid, just the condition it would be in the day extracted. Honey exhibited in this way to the general public at this time of the year is greatly misleading, and hurts the sale of pure extracted honey.

The public, after seeing this labeled "pure extracted honey," naturally expect to receive honey exactly like it when they try to buy it, and think something is wrong, or the honey impure, if they receive granulated extracted honey.

Why not exhibit extracted honey in both liquid and solid state, properly labeled, when exhibiting it to the general public? It would save the seller of honey a lot of trouble explaining, and prevent unjust suspicion arising in the mind of the consumer.

F. D. CLUM, M. D.

Dr. Clum is certainly right in the above. The sooner the general public become familiar with granulated honey, the better it will be for producers of extracted honey. The common idea that such honey must always be liquid is all wrong. This would have been a fine field for the late Honey-Producers' League to operate in. The extracted-honey producers could well afford to spend a little to acquaint the consuming public with the fact that liquid honey will granulate; and also that it is very easily reliquefied.

We hope that, hereafter, granulated honey will be shown in every honey exhibit. The Illinois State Fair honey display always has a large amount of granulated extracted honey. It is a good thing.

The Plural-Queen Question

The author of this system, E.W. Alexander, comes out in Gleanings, and very frankly says that although he has had a plurality of queens living harmoniously together from the first of May until about October 20, yet on examination Nov. 5 he finds only one queen left in each hive. This will be a great disappointment to those who had counted on thus keeping extra queens through the winter. It leaves little value in the system, unless it prove on fuller trial that 2 or more queens in one hive prevents swarming. How that will turn out remains to be seen.

Dual Virgin Queen Plan

One by one the prospects for success of new schemes seem to get a dash of cold water upon them. This time it is the plan of having 2 virgins in a fertilizing hive at the same time, one caged and one free, the caged virgin to be liberated when the free one is laying and removed. Editor Root says in Gleanings: "In order to make this dual plan of introducing a success, the second queen should not be caged more than two days prior to the removal of the first one."

He says more than this is too long a confinement for No. 2, although he does not say what harm results from such confinement. If only 2 days' confinement can be allowed, the plan loses nearly all of its value. One must know 2 days in advance when a young queen is ready to be taken as a laying queen, and it is not an easy thing to do this so long as that time varies no little. Besides, it will not be an easy thing to plan always to have queens emerging from their cells just at the right time. To be sure, one may plan in advance to have virgins emerge from their cells within a short time of any given date, but that planning must be quite a number of days in advance of the emerging, and how is one to tell so far in advance just when they will be needed? Let us hope that it may yet be proven that virgins will bear confinement better than Editor Root supposes.

Profits on Comb and Extracted Honey

A question pretty sure, sooner or later, to arise in the mind of every one who embarks to any considerable extent in bee-keeping is this: "Which will pay best, the production of comb or of extracted honey?" And many a one who has settled the question practically for himself is still so far from being entirely sure about it that he is always alert for anything like definite information on the subject. Hence the figures from so extensive and experienced a bee-keeper as E. D. Townsend, as given on page 720, last month, will be read with interest.

They seem to settle the question in favor of comb honey. For is not 37 2-3 percent better than 34 1-2 percent by the amount of 3 1-6 percent? But it will hardly do to settle down upon it that for all places and all conditions there is more profit in comb honey than in extracted honey. One weighty argument against any such conclusion is that many men of intelligence who have had experience in the production of both kinds of honey produce extracted honey exclusively. They would hardly do so if it were not more profitable for them. What is best for one locality may not be best for all localities. Indeed, it is possible that what is best for one bee-keeper in a given locality may not be best for another in the same locality.

Coming down to the direct case in hand, does the fact of that 3 1-6 percent in favor of comb honey settle it beyond question that Mr. Townsend can make more money by producing comb honey? If a return on the capital invested were the chief factor in the case, the matter of labor being insignificant, then the answer might be conclusive. But is it so? To take an extreme case for illustration, suppose we put the question, "Which is more profitable, chopping cordwood or producing honey?" Suppose Mr. Townsend invests $1.00 in an ax, and gets $300 in the course of the year for chopping; that would leave him a profit of $299.

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or 29,900 percent of profit on capital invested. That's ever so much ahead of 34½ percent he got in the honey-business. But while he makes a profit of $299 with his ax, he makes a profit of $490 with his two apiaries, to say nothing about his other apiaries, so he is not likely to desert his bees and take to the woods.

Indeed some such view was plainly in his mind, for in closing he says: "I think this statement would be incomplete, unless I told what my son would often say, while working this yard. The expression would be something as follows: 'I could have worked 5 yards for extracted honey with the same labor it took to produce this crop of 2300 pounds of comb honey.'"

Without saying positively what is the very best way to figure out the comparative profitableness of those two apiaries, it may not be out of place to say that one way would be to make a comparison on the basis of the labor involved.

Leaving the item of "work" out of the accounts, the profits on the comb-honey apiary are $311.74, and on the extracting apiary $277.94. That seems to put comb honey $33.80 to the good. But note that "work" on comb honey is charged at $75, and on extracted $25—3 times as much work in one case as in the other. To make an even comparison, put 3 times as much work on the extracted business, and you will have a profit of 3 times $277.94 or $833.82 against $311.74 for the same amount of work at comb honey. Looked at in that way, extracted honey seems to be more than 2½ times as profitable as extracted.

Neither does that settle the matter conclusively, by any means, for other factors may come into the problem not here considered. The answer to the question while always interesting, will probably always have to be settled for each one by himself.

Reports on Bees and the Honey Crop

We have received quite a number of these reports, which we asked for in December. In the February issue we expect to compile them for the information of our readers. As they are still coming in we thought it best to wait another month before placing the result before our readers. We would suggest that all who will do so, kindly send in their reports *at once*, so that we can include them with others next month.

Pasting Labels on Tin

Paste made by mixing common wheat flour with *cold* water, then brought to a boiling point, will stick labels to tin. If mixed up with warm or hot water it will not stick, says Mr. W. H. Laws. —Bee-Keepers' Review.

Do Bees Store Honey Below the Brood?

J. E. Hand having said that bees never store honey below the brood, a Stray Straw in Gleanings says that while the general preference of the bees is to store above the brood, there are exceptions, and the following examples are given:

"One year I put under colonies in ten-frame hives hive-bodies of empty combs for the bees to take care of. To my surprise, at that time, the bees did not leave them empty, as Mr. Hand says, but stored honey in them. For a number of years I've used bottom-boards 2 inches deep, with a false bottom, during harvest time, about 1¼ inches deep. A good many times the bees have built comb in the space at the bottom of the hives, filled and sealed it, and I'm not sure they ever had brood in it. They were no more restricted than they always are, having abundance of room in the supers. Neither did the bees 'quickly remove' this honey, and combs were found unemptied when the false bottoms were taken out in October."

Honey in Demand

One item that looks like a greater scarcity or at least a greater demand for honey than heretofore, is the fact that the National Biscuit Co. is advertising for it. It is well known that this company has for years been using large quantities of extracted honey in its business; but this is the first of its advertising for honey; likely because heretofore enough was always offered without advertising.

Sweet Clover as a Fertilizer

The probability is that sweet clover is sometimes estimated at greater than its real worth as a honey-plant especially where white clover in great abundance coincides to a great extent with the blooming time of sweet clover. But it is very doubtful if it is generally valued as it should be as a forage plant. Still less does it get its due meed of praise as an enricher of poor

HILTON'S THOMPSONVILLE APIARY, IN BENZIE CO., MICH.

Pres. Geo. E. Hilton, of the National

On the first page we present the latest picture of the new president of the National Bee-Keepers' Association, Hon. Geo. E. Hilton, of Fremont, Mich. The apiary shown herewith is one of the several that he owns. Mr. Hilton is an excellent presiding officer, has been a bee-keeper for many years, and is planning with the other members of the recently elected Executive Committee of the National to try to have the greatest convention of bee-keepers next fall that this country ever saw. It will likely be held in some city centrally located, so that the attendance may be large. About the only thing needed to insure the best success of the meeting is a big crop of honey. And some hopeful prophets say that 1908 is to be a good honey-year. Well, we know quite a few people who are willing that it should be such. There is nothing like being optimistic. So let us all hope that President Hilton will be able to deliver to bee-keepers a glorious honey crop this year!

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soil comes from the air by means of the legumes, of which clovers form a part. A striking example of what sweet clover will do for very poor land is thus given by D. P. Norton in Oklahoma Farm Journal:

"A few years after I came to Kansas I planted an orchard on the poorest kind of Kansas gumbo land, not fit for cultivation. I mulched young trees heavily for three or four years, also sowed it to white clover, partly because an orchard should not be cropped with any thing not a legume, and mainly for bees to work on clover. The orchard grew finely, and produced the finest of fruit on coming into bearing. The sweet clover mastered every thing and grew immensely. It had full possession eight or ten years, when I sold out eight years ago. Last fall I was there. About half the orchard had been in peachtrees mostly, and the newcomer had cleared up half the orchard where peaches had grown, and was growing great crops of corn on that old gumbo land, beating his best bottom land, he said. I was amazed at the sight. He asked me what caused such corn to grow on that land. He said the plow would go right down to the beam in that soil—and he never had manured it. I knew in a moment it was the sweet clover. And there you are. The apple-trees remaining were extra large, and growing magnificent fruit.

"I am 73, and too old to plant another orchard. If I had known what I know now, what sweet clover would do to gumbo land, I could have bought 1000 acres of such land at seven or eight dollars per acre, and made it worth seventy-five dollars per acre for growing corn and alfalfa."

"A B C and X Y Z of Bee-Culture"

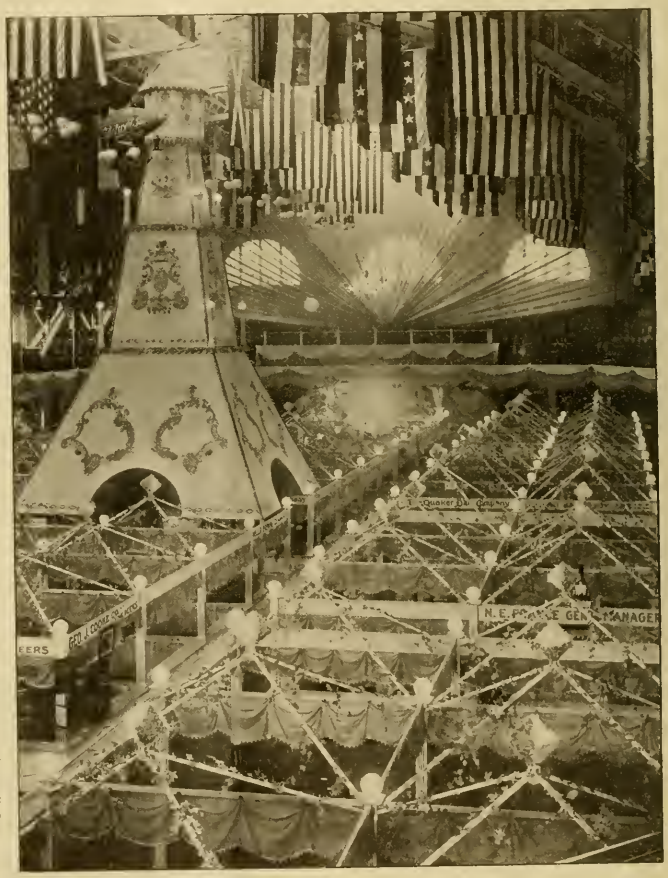
Another new edition of this great bee-book has just been issued. It is an encyclopedia of bee-culture of over 400 large pages, all beautifully illustrated. It is bound in cloth, and is sent, postpaid, for $1.50. The price was formerly $1.20, but this latest edition is $1.50. We mail it with the American Bee Journal one year—both for only $1.75. No bee-keeper's library can be at all complete without a copy of this magnificent apiarian work. It has reached a sale of over 100,000 copies already, being the most largely sold book on bees in the world. Better send to us for a copy to read during the long winter evenings.

The World's Pure Food Show

The Bee-keepers' Review for December contained the following illustrated write-up of the World's Pure Food Show, held in Chicago, last November:

"It is said that the Coliseum at Chicago has the largest floor-space, of any one room in the world; and from Nov. 16, to Nov. 23, 1907, it was occupied with the first annual Pure Food Show.

"The booths were uniform in size (14 feet square), arranged in three double rows, with alleys between the rows, and three cross-alleys. The decorations were yellow and green, with imitation autumn leaves twined over the rafters that extended from the corner posts of each booth to the center. The building was lighted with both incandescent and arc lights, and there was one incandescent light, enclosed in a ground glass globe, at each upper corner of every booth. In the center of the building, reaching to the dome, was a miniature Eiffel tower of dark grey, having red and green transparencies in its sides, the interior being strongly lighted with electric lights.



General View of the Pure Food Show from the Balcony of the Coliseum.

"The view from the gallery of the building was delightfully novel and beautiful, reminding one of a glimpse into fairyland.

"What was there on exhibition? Almost everything eatable and drinkable; and most of the booths were presided over by fair "demonstrators," with fluffy curls, bright eyes, smiles, ribbons and laces, and enthused with a boldness, natural or acquired, or both, that was sometimes more or less of a shock to the sensibilities. Sandwiches were given away to show the superiority of Mr. Somebody's flour; samples of sausage followed the same fate; the various breakfast foods were served with sugar and cream; and a visitor could easily drink his fill of the various coffees and other beverages.

"All around the sides of the building were booths rented to persons having some novelty to sell. By waiting ten minutes you could get three souvenir postal cards adorned with your portrait; for 25 cents you could get a phrenological reading of your cranium, made by an ingenious, automatic machine, and with scarcely any effort, a man could load himself down with vegetable slicers and parers, knife-sharpeners and can-openers, Japanese vases, pop-corn fritters, or 'Kotton Kandy.'

"Yes, thanks to the money raised by the Honey-Producers' League, and later turned over to the National Association, the bee-keeping industry was creditably represented by a display of honey—one that compared favorably with the other

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exhibits. The use of the honey was contributed by different members of the Association, it coming from 15 different States and five foreign countries. After the show was over, the honey was returned to the owners, the Association paying transportation both ways.

"The accompanying illustration shows everything so clearly, that little remains to be said; unless it might be to say that the pyramid is eight feet square at the base, 12 feet in height, and is surmounted by a tall bottle of honey like those shown at the corners, near the base.

"It is probable that the advertising value of the exhibit might have been enhanced by following the course of the other exhibitors, viz., by giving away tastes of honey on dainty crackers, or in some such manner, also by selling dime packages; but the manner in which the honey was secured precluded this feature."

We are indebted to the Review for the use of the two engravings herewith, as well as for the interesting description of the same.

DISPLAY OF HONEY AT THE WORLD'S PURE FOOD SHOW.

Arnd Honey & Bee Supply Co.

We have received the following which is self-explanatory:

EDITOR AMERICAN BEE JOURNAL:—

In as much as the time for which we were allowed the use of the "York" name has almost expired, we have decided that it will be best to make the change now, and have our name appear from this time, as the "Arnd Honey & Bee-Supply Co., successors to the York Honey & Bee-Supply Co."

Our advertisement in the American Bee-Journal has been a great help to us, and we hope to carry it there for many years to come. We also hope that the bee-keepers throughout the country will feel assured that we will give them the same honorable treatment under the name of the Arnd Honey & Bee-Supply Co., as we have always tried to give heretofore, under the name of the York Honey & Bee-Supply Co.

Thanking you for your many kindnesses, both in our business and personal relations, I am

Yours very sincerely,
ARND HONEY & BEE-SUPPLY CO.
H. M. ARND, *Proprietor.*

We wish the Arnd Honey & Bee-Supply Co. every possible success—and to all of our other advertisers the same. While the past honey season or two have been somewhat discouraging all around, we must all push ahead for final success.

Complete 1907 Volume for 50 Cents

We find on assembling the copies of the American Bee Journal for 1907 that we have quite a few complete volumes left. The first half of 1907, as most of our readers know, the American Bee Journal was issued weekly, and during the last half, once a month. This would make the complete volume for 1907 consist of 32 copies. Although the first half of the year the price was 50 cents, (as the yearly price then was $1.00), we will mail the complete set (32 copies) for only 50 cents, which is now the regular yearly subscription price of the American Bee Journal.

If any desire to have the volume for 1907 in connection with that of 1908, we will send the two volumes for 90c. We would suggest that those who wish to have the complete volume for 1907, should order very soon, so as to be sure to get it before all are gone.

Ontario Union Counties Convention

In Brantford, Ont., on Jan. 21, 22, and 23, 1908, will be held the Union Counties convention of bee-keepers, the first session beginning at 7:30 p. m. on the 21st. Ex-President Aspinwall of the National Bee-Keepers' Association has promised to be present and talk on his non-swarming hive. It is expected that a number of Canadian leaders in bee-keeping will be present, among them being F. J. Miller and H. G. Sibbald, President and Ex-President, respectively, of the Ontario Association. Mr. Sibbald will speak on wax-extracting, and will also have something valuable to show in the way of wax-extracting. Not only Canadian bee-keepers but also those in the United States, who can do so, are cordially invited to attend this convention. The New American Hotel offers good accommodations at $1.50 per day.

For further particulars address, W. J. Craig, Brantford, Ont.

New Jersey Convention

New Jersey State Bee-Keepers' Association will meet at the State House in Trenton, N. J., Saturday, Jan. 11, 1908, beginning at 10 a. m. Among the addresses and subjects to be discussed are the following:

Bees and Blossoms—Pres. Wm. W. Case.

A Season with the Carniolans—A. G. Hann.

Preparing Extracted Honey for Market—Harold Horner.

What the Government is doing for the Bee-Keeper—F. G. Fox.

The Future of the Honey Business—J. H. M. Cook.

The Wintering Problem.

For further particulars address the Secretary, G. N. Wanser, Crawford, N. J.

The Wisconsin Convention

The Wisconsin State Bee-Keepers' Association will meet in the Capitol, at Madison, Wis., Feb. 5, and 6, 1908. Pres. N. E. France promises several good papers and an abundance of questions. The special features of the Wisconsin convention have always been the friendly and social intercourse among its members, and the profitable and instructive questions and answers of special interest to bee-keepers. Everybody is cordially invited to be with us.

GUS DITTMER, *Sec.*
Augusta, Wis.

Chicago Annual Poultry Show

The 12th Annual Poultry Show of the National Fanciers' and Breeders' Association will be held in the 7th Regiment Armory, in Chicago, Jan. 22 to 29, 1908. Liberal cash, special and general prizes will be offered. The 2d annual meeting of the American Poultry Association, (Mid-west branch) will be held in the Club Rooms of the Show.

For premium lists and other information address, Fred L. Kimmey, Sec., 105 S. Clinton St., Chicago, Ill.

Mercy in the Comb

Dr. C. C. Miller sends the following conundrum which he "built" himself:

"What is the quality of mercy?"

"It must be in the comb, for Shakes-

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PREPARING COMB HONEY FOR MARKET.

peare says, 'the quality of mercy is not strained.'"

That is very good. If the Doctor makes up any more of the same quality, whether "in the comb," "extracted," or "strained" form, we will be glad to have them.

Preparing Comb Honey for Market

The illustration herewith shows C. N. Seward, of Nebraska, preparing his comb honey for market. While his specialty is the production of extracted honey, he also has some comb honey. It will be noticed that Mr. Seward is using the original hand method in cleaning sections, instead of the machines invented for the purpose several years ago. By the way, we don't hear very much nowadays about section-cleaning machines. It looks very much as if most of those who produce comb honey don't have more than they can clean by hand. And we are under the impression that they would be glad to work over-time at it, if it were necessary, in order to take care of a larger crop.

Conducted by EMMA M. WILSON, Marengo, Ill.

Women at The Chicago-Northwestern.

The Chicago-Northwestern Convention is over. A good time we had, too. The attendance was good, and the interest throughout the sessions was very marked. It was like a big family circle discussing topics of mutual interest to all. One of the most delightful features of any convention is the meeting and clasping of hands with so many old friends, and always the possibility of making new ones. We were very sorry that Mr. W. Z. Hutchinson, who was to have taken the report of the convention, although in the city, was not able to be at the convention on account of illness. We sincerely hope that ere this he has fully recovered. However, Miss Ruby Stryker—Mr. York's able office assistant—took his place at the evening session and also the last day.

There was a very fair proportion of the gentler sex in attendance—18, if I have made no mistake. A bright, intelligent lot they were. I tried to get all the names, but may have missed some. The following is the list as I obtained it:

Miss Ella M. Ottaway, 4 colonies; Miss Carrie Ferguson, 4 colonies; Mrs. Laura Morris, 33 colonies; Miss Helen S. Wheeler, Miss Harriet Wheeler, Miss Mary Caldwell, Mrs. H. M. Arnd, Miss Margaret Arnd, Miss Ruby Stryker, Miss Mattie Godfrey, Miss Ada Benson, 100 colonies, 3000 pounds of honey; Mrs. G. Hiestand, 2 colonies; Mrs. Mary MacDonald, Mrs. J. J. Glessner, 11 colonies, 950 pounds of honey; Mrs. R. B. Holbrook, Miss Mathilde Candler, 330 colonies, 5000 pounds of honey; Mrs. H. C. Holmes, 19 colonies; and Mrs. S. Switzer, 50 colonies.

Honey Wafers.

Heat one cup of honey to the boiling-point, add half a cup of butter, let stand 10 minutes. Add the grated rind and juice of a lemon, one-half teaspoonful of soda, and flour to make very stiff dough. Roll out as thin as possible, cut into little oblong pieces and bake 10 minutes. When done, they should not be over a quarter of an inch thick, and as crisp as "ginger snaps."

Bees Charmed by Music.

"Upon entering their residence on the south side Mr. and Mrs. Edward Simons found that a swarm of bees had invaded the home during their absence. The bees were in no good humor and immediately attacked the couple. While they were fighting and calling for help Miss Florence, a daughter of Mr. Simons, entered. She made a B-line for the music room, where she proceeded to play a few notes on the piano. The music had a strange effect on the bees, and aside from the music the house grew quiet. The swarmed insects were then easily hived."

The foregoing was taken from the Detroit Journal, of July 5, and was sent in by E. J. Delamater, of Dow, Mich. Should not a piano and young lady be listed regularly among bee-supplies, to be kept in the apiary during swarming-time?

Bee-Keeping for Women.

Woman's activity in business is no longer a theory. Every avenue of work is crowded with her. She feels that she is emancipated from the narrow walls of household duties and needlework that used to confine her. One meets her in the store, in the bank, in the office. All the professions are now open to her. The schoolroom is almost entirely monopolized by women. Bookkeeping and typewriting are among the wage-earning pursuits which she aspires to and fills with more or less ability.

Without discussing the wisdom or unwisdom of modern women entering all the activities of life, perhaps no one will dispute the fact that feminine nerves have not improved by the strain upon them of steady work in the office or store. The demands of business are heartless and continuous. It takes the last bit of strength and energy that a strong person can summon. The highly organized, but not always overstrong, bodies of women often give way under the strain, and physical wrecks strew the highway of life.

If it were only fashionable to pursue an occupation where sunshine is the cosmetic needed to put color on the cheek and luster in the eye, it would be better for womankind and her offspring. Unfortunately it is not considered quite the thing to bronze the skin and develop the muscle while earning a living. That is all right while taking a summer vacation, but after the outing is over the bleaching process soon begins, and lotions which are supposed to add beauty to the complexion are the rule.

But why should occupations that give exercise, and muscle, and health be more unpopular than those which tend to keep the wage earner delicate and dainty? It cannot be that men admire the pale and powdered type of feminine beauty more than the ruddy and robust figure that possesses the natural glow of health acquired in open air and sunshine. It is a pity that labor requiring exercise should be unpopular. It is a pity that out-door life is not more sought after by delicate women in search of employment. If health and profit could be combined what an ideal condition would be found.

It is true that some women have found

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profitable employment in outdoor ways, but to my way of thinking not enough are so inclined. There are a number of things which a woman might do that would enable her to live in comfort and yet to enjoy the freer air of heaven while doing it, but I shall mention only one or possibly two that are well adapted to her.

Bees and poultry are a combination that go well together, and which a woman can manage as well as a man. Indeed, I believe she will achieve greater success in either line. She is especially well adapted to them by nature. She has an infinite capacity for detail that doubly discounts the other sex. She has a natural neatness that surpasses her male rival, and hence I look for her product to be prepared for market in a more attractive style. The history of bee-culture shows that some of the most successful bee-keepers have been women. They adapt themselves to the requirements of the business with such readiness that they surpass everybody, including themselves.

For the benefit of those who would like to take up this branch of outdoor work, and who hesitate for fear of stings, or the difficulty of hiving swarms, I will try to make it plain that neither of these fears are as bad as they appear. With a bee-veil and gloves, and a good smoker, there need be no fear of stings, and after a little practice the first will be discarded almost entirely. A knowledge of the creatures will give confidence. One soon learns their dispositions and knows when a veil is necessary; and when most necessary there is usually little occasion for handling. During a honey-flow, when one is putting on or removing supers, bees are seldom cross, and a veil is a hindrance to rapid work.

A woman may manage swarming by clipping the wings of all laying queens, thus dismissing the dreadful thought of climbing trees to capture high-flying swarms. A woman could find a queen as readily as a man, and if she is captured the swarm will not go far and will be pretty sure to return. Or the colony may be divided at the proper time instead of waiting for natural swarms. All this can be attended to by a woman as well as a man. A woman could soon learn to rear queens to supply divided colonies and to sell, thereby adding to her income. This part of the business would prove quite fascinating and quite profitable.

Putting hives and sections together is as practicable for women as for men, and the charm of working with bright and clean new lumber, and putting in the dainty and fragrant foundation is as alluring as the click of the typewriter or the rattle of dishes in the kitchen. Besides taking one out of doors and thus proving a more healthful occupation than any office work or teaching or dressmaking, there is no reason that it is a money-making business and rapidly growing more so.

Everything now used in an apiary is made in factories, and is furnished made up or in the flat as demanded. Supplies are uniform and exact, and it is a pleasure to handle and make them up.

The first requirement in bee-keeping is a knowledge of the natural history of the bee. This can be gained through books easiest and cheapest, and if one has the instinct of curiosity, or a leaning to scientific research, the study will be found very interesting. A practical work on apiculture is a necessity unless one chooses to learn natural history through observation alone. But life is too short. It is better to begin where the others have left off and, through experience, add to the knowledge gained from books. EUGENE SECOR.

This article by the Hon. Eugene Secor, the poet-laureate of bee-keepers, copied from the Northwestern Agriculturist, is somewhat lengthy, but it is all so good that none of it can be cut out. In one respect many of the sisters would probably not agree with Mr. Secor. The three articles mentioned, "the bee-veil, gloves and a good smoker," would all seem to most of us actual necessities, but if we really had to give up one of the three no doubt the gloves would have to give place to the bee-veil and smoker. To a "mere man" a veil may be "a hindrance to rapid work," but then he is not a woman, accustomed to a veil as a regular article of dress.

Are Hive-Lifters Valuable?

The Canadian Bee Journal, page 337, gives an illustration of a hive-lifter used by John Bailey, and says:

"His hive-lifter must be a great aid in the bee-yard, particularly for those whose physical strength is at all impaired by age or otherwise. Our lady friends should find it a great help. Mr. Bailey says he uses his four-wheel cart as a wheelbarrow, and can carry one to six hives or supers on it, as desired. By running the shafts under the cleats on either side of the hive, it can be picked up and placed in its new location during swarming season. This, with his hive-lifter, will greatly facilitate his work."

A good deal has been said lately about hive-lifters, some of the lords of creation lauding them, others seeming to think them hardly worth while. The Canadian Bee Journal thinks the hive-lifter especially adapted to ladies. How is it, sisters? Have any of you tried them? Whatever may be said about a hive-lifter, certainly a cart or wheelbarrow is often a great help.

Conducted by LOUIS H. SCHOLL, New Braunfels, Tex.

Good 1908 Honey Prospect

Texas has gone "wet" by a big majority (of counties) this time, for sure. It's been raining most of the time all over the State for the past 3 months, and is still at it at this writing. This, however, means big things for Texas in 1908, in the way of a honey crop and other crops, other conditions being favorable.

Friendly Criticism Desired

If any of our readers see anything in this Department under my signature that is not in accordance with Southern bee-keeping according to their views, they will confer a favor by calling attention to it, keeping in mind that friendly criticism is always in order.

Our 1908 Honey-Yielders Already Growing.

If it were not for Dr. C. C. Miller laughing at me, I would say that prospects were never brighter at this season of the year for a honey crop the coming season. This is owing to the warm and very wet weather we are having. All of our best honey-plants are up and growing, as if it were spring. This will put them in excellent condition to stand the next 2 or 3 month's winter weather that we are likely to have. Then with a few showers of rain in the spring, with the warm sunshine we are sure to have, Texas will be one vast flower-garden through March, April, May and June.

Quality of "Marigold" Honey.

My oldest daughter heard a bee-keeper not long ago say, "I had to give up bee-keeping in my location, on account of the bees getting so much honey from wild 'marigold,' and spoiling my honey so I could find no sale for it." This is another new one to me. I have kept bees, and have been a close observer of the various honey-plants of this State, for something like 25 years, and this is the first time I have heard that "marigold" honey was of an inferior grade. I have sold thousands of pounds of it, and never had a single complaint of it. I wish I had to-day all the "wild marigold" honey I could sell. What say you, Mr. Scholl, about the quality of "marigold" honey?

Caged Queens at the Entrance.

I can't remember seeing before in print the statement that Mr. Doolittle makes, on page 1433 of Gleanings for Nov. 15, 1907, that to cage a queen near the entrance of the hive, the work goes on right along as if nothing had happened, the bees often failing to start queen-cells at all. This is worth remembering, if true; and I am not prepared to say it is or is not, from experience. And if I doubted his statements I should hesitate to say so, for you know Mr. Doolittle's head is usually pretty level on bee-topics.

Supersede Those Old Queens.

You have it right, Mr. Scholl, in speaking of leaving it to the bees to supersede their own queens. Where you say, "Too often the queens get so old and feeble that the colony dwindles down to a mere nucleus before it gets a new queen, and will require a long time to recover, if at all, at the expense of the bee-keeper." (Page 1434, Gleanings for Nov. 15, 1907) I am sure it has always paid me well to look after failing queens in all of my work with the bees. It is so very easy to rear good queens during the honey season from the best colonies, and requeen all colonies with old or otherwise undesirable queens, that I can see no possible excuse for leaving this to the care of the bees. I would almost as soon leave it to the bees as to how often they should swarm and re-swarm, without any resistance on my part, as to allow them to do their own requeening. Yes, sir, it pays, and pays well, to destroy old and failing queens, in "this locality." Especially is this true in poor years for bees. I have often known bees in a poor

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year to hold on to their old queen until she became a drone-layer. Why they should do this I will leave it to others to say. L. B. SMITH.

Rescue, Tex., Nov. 27.

There is a difference of opinion regarding the quality of honey from any given source, Mr. Smith, and so it is with "marigold" honey. *Gaillardia pulchella,* commonly known as "wild marigold," yields a rather dark, golden honey, of heavy body, with a rather distinct flavor of its own that some people do not like, if accustomed to some of our mild flavored honeys. This, however, has never been objectionable to me, nor have I heard others complain as does the bee-keeper mentioned by you. I am like you—I could sell a lot of that honey now, and surely would not have to go out of business on account of the quality of "marigold" honey.

The Divisible Hive Again

Here is given a letter from quite a number in which are asked questions that are also contained in the others. I have thought that such letters would stop coming, as they have been coming to me for 10 years, since I have used such hives; and since so much has been written in the various bee-papers regarding them. But it seems that there are so many points to consider before making a radical change from one good hive to another that, perhaps, may *not* prove as good. And well may it be that a thorough investigation be made, therefore, before making a change. Hence all these letters:

DEAR MR. SCHOLL:—Your article referring to the sectional hive together with the other good things I have read concerning it, have nearly converted me to that hive. It is not so much that hive that appeals to me as the system which goes with it. I think I can see benefits connected with the sectional hive which no other hive can give, but I wish to be sure before I make a change. I have a good hive for this location, but of course, the "frame-handling system" goes with it. It measures 14⅞ inches long and wide, and 10¾ inches deep. I use shallow extracting supers nearly entirely, and if I change to the sectional hive I will use these supers as brood-chambers as well as supers. Mr. Hand uses the standing frame, and I understand you use the hanging frame. Would you mind telling me why you do not use the standing frame? Mr. Hand also has a movable side to his hive. I do not think that necessary. What is your opinion?

If you were producing extracted honey entirely, would you still prefer your hive?

In tiering up my supers without an excluder I nearly always have a little brood in *every* super. Would the same thing happen with you by a little mismanagement, and have you a kink which always prevents it? I am very much interested in this system, but I want to be "dead sure" before I adopt it. I know I am presuming a good deal in asking your advice, but hope you will find time to give me a little help in the matter, with any suggestions you may think helpful. There is only one man in Canada who uses the divisible brood-chamber, so far as I know.

H. A. SMITH.

Palermo, Ont., Dec. 17.

As regards the divisible brood-chamber hives, I can not refrain from believing that such hives, *together with the system of management that should always go with them,* (mind you that), are bound to become more popular in the future than they have in the past. That they will supplant the other styles, I would never claim, for there are too many bee-keepers for whom the divisible hives would not prove a success, hence some other style of hive should be used by them.

Neither would I advise any bee-keeper, no matter how well he is informed, to make a radical change from the deep to the shallow hive. Try a few of them and see if you will not be convinced. If I had all the prospective bee-keepers who have written me regarding my hive, and others who are interested in my apiaries, during *one* season, I know there would be a majority of converts. Several of my earlier opponents have been converted in less than a month's time with me.

The idea of using the shallow extracting supers already on hand for the experiment is good, hence I call special attention to it. If none are in use procure *a few,* and if the experiments with them as divisible brood-chambers do not prove satisfactory, use them as supers, and very little expense is entailed.

Either hanging or standing frames can be used, and I think the difference is generally due to what the apiarist has become accustomed. I can not see why standing frames are used, as I have tried them. They are not so easily handled in rapid, short-cut, large-scale operations as the hanging frames, which can be dropped in place in a twinkling. Neither could I prevent mashing bees where the standing frame-rests are below and out of sight, while with the latter the rests are in sight, and the frames swing into place. Where propolis is abundant, as it is in some of my apiaries, standing frames have been even a nuisance. My preference is a shallow Hoffman self-spacing (V-edge) frame with thick end-bars, full ⅜-inch, and narrow ⅞-inch top-bars ½-inch thick. These go into a plain super shell with rabbets (no tin rests), and are handled from the top. No movable sides are necessary, as there would be no use for them with me, and would be only an extra expense, besides weakening the super.

Some of my apiaries are managed entirely for extracted honey, others for comb and extracted. The queens have access to the first shallow extracting super at the beginning of the season, and later the honey is put in the combs in place of the brood, keeping the queen below. Then if the brood-nest is manipulated just at this time, by exchanging the upper half with the lower one, providing room for the queen, there will be very little trouble about brood in the supers, as the bees fill the combs rapidly with honey; and, besides, there is sufficient room for the queen from there on in such a large brood-chamber equal to 12 Langstroth frames. I have tried queen-excluders, but discarded them soon about 8 years ago, and would not use them in honey-production.

Conducted by J. L. BYER, Mount Joy, Ont.

The Ontario Convention Again.

In the very brief report of the Ontario Bee-Keepers' Convention, which appears in December issue of this journal, several features of the proceedings are not mentioned. This is explained by the unavoidable absence of the writer during one of the sessions, and also to the fact of his having to act as auditor during the time that one address was given during another session. The brief report referred to, was hastily prepared from notes taken while at the convention, and the foregoing is simply given, in the hope that any who took part in the proceedings will not think that any slight was intended. Some of the addresses given, of which no mention was made in the December issue, were as follows:

A paper by Prof. Surface, of Harrisburg, Pa., on the subject of "Bees and Horticulture;" a paper by R. H. Smith, entitled "A Chapter of Mistakes," and a lucid address by Arthur Laing, on the "Production and Exhibition of Honey."

Time for Fall Feeding of Bees

So you think, Mr. Editor (page 741), that the diverse views of Canadian bee-keepers in regard to the proper time for fall feeding, is apt to make beginners feel "somewhat dizzy." As one of the trio referred to in said editorial, I shall endeavor to reconcile somewhat such seemingly different opinions, and in a measure bring order out of chaos.

The writer, as correctly quoted, said in the Canadian Bee Journal, that in his experience it is not wise to feed much

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before September 20. Editor Hurley says he prefers to feed when the "last batch of brood has hatched." I suppose Mr. Hurley does not mean to infer that he waits until there is *absolutely no brood* in the hives, as in our locality some colonies will have *some* brood clear into November. However, the point is this: By waiting till Sept. 20, my object in so doing is precisely the same as in Mr. Hurley's case, as by that time brood-rearing is pretty well over, and the syrup fed goes where I want it—right into the heart of the brood-nest. So you see, there is not so much difference in practice, after all, between advice given by Mr. Hurley and methods followed by myself.

At first glance, Mr. Adams' views in favor of feeding at the close of the honey harvest does, I admit, seem diametrically opposed to what Mr. Hurley and myself advocate, but after careful scrutiny the difference is not so apparent.

Mr. McEvoy is very enthusiastic in this matter of early feeding, and Mr. Adams is a thorough disciple of Mr. McEvoy's, at least in the matter of feeding bees.

It will also be remembered that Mr. McEvoy is very particular that his bees go into winter quarters on *combs sealed clear to the bottom*, full of either good honey or sugar syrup. Knowing Mr. McEvoy's views along this line, for some time it was a mystery to me, how *solid sealed combs*, could be obtained, by feeding "at the close of the honey-flow." In a personal interview, only a short time ago, Mr. McEvoy explained how he accomplishes this. Like Mr. Adams, at the close of the honey-flow he feeds all the colonies will take, *then in the fall when the brood is hatched out, he puts on the feeders again, and completes the job.* While I can not positively assert that Mr. Adams followed out the latter part of the program, I feel pretty sure that such is the case, judging from the fact he is an advocate of colonies being very heavy for winter.

Again, the matter of locality figures a great deal in feeding, as well as in many other things pertaining to bee-keeping. Mr. McEvoy, who lives in a locality where there is almost absolutely no bee-forage after the white honey-flow, admitted that the early feeding was not to be thought of in places where there was a buckwheat or other fall flow. If I am correct, there is rarely, if ever, any fall flow in Mr. Adams' locality. In our immediate district, while we rarely obtain much surplus from the buckwheat, yet enough nectar comes in to keep brood-rearing going on at a lively rate well on into September.

The strain or race of bees has also quite a bearing upon the subject at issue, as it is a well-established fact that pure Italians, as kept by both Mr. McEvoy and Mr. Adams, are more conservative in the matter of brood-rearing than are Carniolans and their crosses. While I have some pure Italians, the great majority of my bees have Carniolan blood, and the latter *always* breed later in the season than do the Italians.

All things considered, there is not then so great a difference of opinion among the three Canucks under arraignment, on the subject of feeding bees for winter. However, before closing, let me repeat in a "stage whisper," that for *my locality*, "experience has taught me, that for various reasons, it is not wise to do much feeding previous to September 20.

Amount of Syrup to Feed for Winter Stores

Another interesting phase of the feeding question has been the different estimates made, as to the number of pounds of syrup necessary to be given to a colony to make up a certain deficiency in weight. Some years ago, a member of the Ontario Bee-Keepers' Association made the statement that a pound of sugar made into syrup would not be equal to more than a pound of honey for winter stores. I thought at the time that too low a value was placed on the sugar, but after some years' experience in feeding a number of colonies, I came to the conclusion that the estimate of my friend was about correct. However, I never made any careful experiments along that line, consequently I was in no position to make anything like a positive assertion.

At the fall meeting of the Connecticut Bee-Keepers' Association, the question, "How many pounds of sugar should it take to make 10 pounds of winter stores?" caused that careful apiarian investigator, Mr. Allen Latham, to do some experimenting, and it is a source of pleasure, at least to the writer, that we now have some authoritative data on the subject. Three average colonies were weighed and then fed at once 20 pounds each of syrup, made of 12½ pounds of sugar to 7½ pounds of water, a ratio of 5 to 3. At the end of two weeks the hives were again weighed, and the following gains recorded: 14.5, 14, and 13.5 pounds.

Mr. Latham says, if we assume that each colony had the right to consume one pound of stores (whether fed or not) during the 2 weeks, the actual gain would be 15.5, 15, and 14.5. While these results seem to prove that a pound of sugar equals somewhat more than a pound of honey for stores, the question still arises, "Is a pound of the sealed syrup equal in *lasting qualities* to a pound of honey?" Although I much prefer pure sugar syrup for wintering, yet of 2 colonies weighing precisely the same in October, one fed on sugar, the other with honey, I would be much more afraid of the first-named colony being the first to starve in the spring; this assumption of course being based on colonies not fed beyond the danger limit.

It would be interesting if Mr. Latham or some other bee-keeper of an investigative turn, would carry out these experiments from fall till the following spring.

Growing Mustard for the Bees

Speaking of bee-forage, in December American Bee-Keeper, Arthur C. Miller says:

"Another form of pasturage which might be possible to the bee-keeper running his own farm, is the sowing of mustard with his grain crops. It is doubtful if the average farmer can be persuaded to do anything of the kind unless he is also a honey-producer, for the farmer looks upon mustard as a noxious weed."

If by the word "mustard" Mr. Miller means charlock or wild mustard, as we have it here in Ontario, farmer bee-keepers would better hesitate before sowing it on their own or any other land. While it may not, as Mr. Miller points out, materially reduce the yield of grain, yet mustard is a noxious weed, and good farms infested with the plant will not sell for more than 60 percent as much as the same land free of the weed. Moreover, this Province classes it as a noxious weed, and no one could lawfully spread it on his own or any one else's land.

However, I agree with Mr. Miller as to the value of the plant as a honey-producer, and as two of my three yards are in localities where mustard has full sway over some hundreds of acres of rich land, I am in a position to appreciate fully the benefits of the plant from a bee-keeper's view. In the majority of years, it blooms at the same time as alsike, and in such cases the benefits of the plant are not so pronounced, as I find when the clover is yielding well, the mustard is not visited by the bees.

But some years we have an exceptionally early seeding, and when this is the case, the mustard blooms from 10 days to 2 weeks earlier than the clover, and it was in a year like that, that the mustard was worth fully $500 to the scribbler of these notes. While bees in localities that had no mustard, had to be fed, my bees stored about 25 pounds per colony, and what splendid condition they were in for a short, rapid clover flow that followed! While the yard that had no mustard within reach stored very little surplus, the other apiaries averaged over 100 pounds per colony.

Mr. Miller says that with him the yield seems to be uniform one year with another, but with us that is by no means the case, as some years it yields abundantly, and at other times hardly a bee visits the bloom. However, the bee-keeper is always sure of the bloom, as it is quite able to withstand frosts, drouths, or any other conditions of weather. The honey is of fair quality, light golden in color, and as a rule goes right in with the clover honey, with no detriment to the latter.

Souvenir Bee Postal Cards

We have gotten up 4 Souvenir Postal Cards of interest to bee-keepers. No. 1 is a Teddy Bear card, with a stanza of rhyme, a straw bee-hive, a jar and section of honey, etc. It is quite sentimental. No. 2 has the words and music of the song, "The Bee-Keeper's Lullaby;" No. 3, the words and music of "Buckwheat Cakes and Honey;" and No. 4, the words and music of "The Humming of the Bees." We send these cards, postpaid, as follows: 4 cards for 10 cents, 10 cards for 20 cents; or 6 cards with the American Bee Journal one year for 50 cents. Send all orders to the office of the American Bee Journal, 118 W. Jackson Blvd., Chicago, Ill.

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More Bees or Better Yields—Which?

BY G. M. DOOLITTLE.

Not long ago I received a letter from one of our best apiarists, in which he declared that he was going to keep more bees than he had in the past, and do less work with them, as he was confident that double the number of colonies would give him more honey from his field or location than he had been getting, and that he might care for this doubled number he would do less work on each colony than he had been doing. He felt sure that double the number of colonies would give him more honey, even if he let them take care of themselves, than he had been receiving from half of them, with all the labor he had bestowed on the number he had formerly kept. He said that he believed that the system of management used by many in securing large yields from individual colonies, caused a greater amount of labor and manipulation than there was any need of, and henceforth he should adopt exactly the reverse from the plans he had formerly been using, and put more bees into his field, so that he would get the same amount of surplus, and he thought much more, with very little labor. If Mr. Alexander could keep 700 colonies in one place, he did not see any reason why he could not keep 500, just as well as to be keeping the 250 which he had been doing. I have not quoted the words used verbatim, but I have given the substance of that part of the letter treating on this matter.

I know there is an idea prevailing with some bee-keepers, that more money is to be made in apiculture by keeping a large number of bees and letting them largely take care of themselves, than there is by keeping a less number and properly caring for them. But is this idea correct? Have all the items which bear on this matter been given the proper consideration? As I have been advocating keeping only as many colonies as could be properly cared for, I asked myself if I was in the right or in the wrong. After reading the letter, I concluded that it behooved me to consider the matter a little, and if I were on the wrong track, I had better get right. The first thing that seemed to impress itself on me was the extra cost of hives and supers which would be required for double the number of colonies I was keeping. When I first began keeping bees, 40 years ago, this hive item was no great one, for at that time there were forests all about me so that lumber good enough for hives could be purchased at $15 per 1000 feet, and that with honey at from 35 to 50 cents a pound. But now it is altogether a different thing. The same 1000 feet of lumber would cost me $40, while I must pay for the same with 15 to 18 cent honey. This gives this hive problem a very different look from what it used to have, 35 to 40 years ago, and is something worth considering when we come to think of doubling the number of colonies of bees we are keeping.

Then, all do not have a location like Mr. Alexander—no, not one in 500. If I am correct, he is surrounded by thousands of acres of buckwheat, with enough nectar-producing flowers before this flow from buckwheat to keep his bees and bring them up to a good condition to take advantage of the flow when it comes. The most of us depend upon the flow from clover and basswood, which comes so early in the season, and especially where white clover is the source of our surplus, that it is by the most careful coaxing and manipulation that our bees are gotten strong enough to be in good condition for this early storing; and failing in these matters, we have an entire failure; for, unless we have the bees on hand to secure the nectar when it comes, all the bees brought on the stage of action at a later period count for naught, as there is nothing for them to store from.

With a location giving an abundant yield from clover from June 15 to July 10, then from basswood to August 1, and then an Alexander location which simply flows with honey from buckwheat from August 8 to September 10, this keeping of more bees might be something worth considering; for, with such a location, the bees would almost keep in perpetual readiness for the flows as they came, and the yield would be great enough to cover all extra cost of hives, etc. But with the average location there is something of greater importance, as I consider it, than anything before alluded to.

After carefully looking the matter over, I believe that there is one item regarding these extra colonies which the advocates forget, which is great enough more than to pay for all extra time spent in building each individual colony up to where it can profitably take advantage of any flow of nectar which comes in our locality, which item is great enough more than to offset all of the others, so that the investing of capital in more hives for the extra number of colonies is worse than thrown away. This item is, that each of the extra colonies put in the field in order to secure the nectar-secretion from a given area with but little or no caring for the colonies, costs at least *60 pounds of honey each year* to support. So the question, it seems to me, would be, which is the cheaper, the labor formerly spent on one-half the number to get them in shape for the harvest, or the extra colonies, hives, etc., and the *honey* that the extra colonies will consume?

Suppose that 500 colonies produce an average yield of 30 lbs. each on the let-alone plan, and by so doing secure all the nectar in the field year by year. This would make 15,000 pounds of surplus as our share of the field, while each of the 500 colonies will use 60 pounds, or 30,000 pounds as a whole, as their share to carry them through the year. Thus we fail to secure to ourselves only one-third of the honey from our field by employing an extra number of colonies. On the other hand, if we employ the management plan that our best farmers do—that of securing the same amount of produce off one acre of land that the "go as you please" farmer does off of two or three—we shall find our statement thus: 45,000 pounds is the product of our field; 200 colonies are all that are needed with good management to secure it. Then 200 colonies must use 12,000 pounds of this for their support, leaving 33,000 for the bee-keeper, or the one who adopts the good-management plan. Thus it will be seen that the apiarist who shows "good generalship" gets 18,000 pounds of honey for his generalship, and uses little if any more time than he would use on the 500 colonies without any management; hence, from the standpoint of securing all the honey produced by our field, the management plan is 18,000 pounds ahead of the other plan of *"keep more bees,"* so greatly emphasized by its advocates. And I consider that the same holds good, be the number great or small.

A live apiarist can care for one-half the number of colonies on the good management plan as easily as he can for double the number as proposed by my correspondent, and this one-half will give the apiarist as good results in dollars and cents as will the whole cared for in the neglected way necessary with "keep more bees," and save the extra honey consumed by the extra one-half of the number of bees, as clear gain to the bee-keeper. And, besides this, there is an inspiration and an enthusiasm which comes with the management plan that is worth a whole lot to the bee-keeping world. Look at Mr. Terry, who took that farm in Ohio and made it produce three times the bushels of potatoes which the one preceding him did! See what such management did for Mr. Terry, and, much more, see what it did through Mr. Terry for the world. This old world grows better as well as richer through those who are not afraid to put forth a little extra energy, that the small things which they may chance o have can be "made to bud and blossom as the rose."

Borodino, N. Y.

Two Queens in One Hive

C. P. DADANT.

In the past few months, some interest has developed among readers of the bee-papers concerning the keeping of two or more queens in one hive. Enthusiastic bee-keepers having noticed that sometimes two queens are found

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living peaceably in the same hive, have concluded that it would be a good thing to cultivate that tendency, thereby securing a greater amount of brood and a greater force for the harvest of honey.

If we investigate the occurrences of abnormal presence of two queens in the same hive, we will find that in nearly every case (exceptions confirm the rule) this happening is due to the rearing of a young queen by the bees in order to supersede the old one that is losing her fertility. The writer has found instances of this kind, quite often, in his experience, but in nearly each instance one of the queens was practically a nonentity, being at the end of her career, and laying but few eggs. Evidently she was disregarded by the bees, and by the young queen as well.

Dr. C. C. Miller, who has the well-earned reputation of being the most cautious writer on bee-matters, because he seldom advances a statement of which he is not absolutely positive, made the assertion, at the December meeting of the Chicago-Northwestern Bee-Keepers' Association, that when bees rear a young queen to replace or supersede the old mother, they rarely if ever destroy the latter, but allow her usually to die a natural death from old age.

That the existence of two queens in one hive, at the same time, one being the mother of the other, has happened oftener than the apiarist realizes, is quite probable. The elder Dadant, who had a long experience in queen-rearing and queen-introducing, often said that when the bees refused to accept a queen that had been properly introduced by keeping her caged in the brood-chamber for a number of hours, it was usually because they yet had another queen which was not suspected by the apiarist. The custom is to hunt the queen, and, when she is found, to look no farther. In most cases, we would be looking for something that did not exist, if we looked for a second queen, but we have accidentally found two queens while looking for only one. The writer reported such an occurrence on page 52 of the new Langstroth Revised. In other instances, finding a very decrepit queen in a strong colony running over with brood and young bees, we would at once conclude that she could not be the mother of all these bees. Looking farther, we would find the daughter in full vigor and probably already several months old.

But granting the fact that when a queen is superseded owing to decreasing fertility, she is allowed to remain and to continue laying until she is entirely sterile, and finally dies, does this make it advisable to attempt the introduction of valuable fertile queens in hives already supplied with good, prolific mothers? In other words, will it be profitable to keep two or more queens in a hive, and to expend money in buying or rearing queens for this purpose?

A number of instances are cited, in which a queen has been introduced in a colony already supplied, and the two queens have apparently lived in harmony, and bred. But there is no doubt that in many cases, such attempts at forcing nature would be failures. When in possession of an observation hive, who has not tried this experiment, just out of curiosity? And how regularly the new queen has been destroyed, often by the bees themselves, without allowing the two mothers to come to a battle royal.

The principal instances in which additional queens may be accepted and allowed to remain unmolested are during a good, favorable season, when the bees are prone to accept strange young bees and drones without protest. They are at that time in a pleasant mood, and will suffer conditions which would incite their anger in unfavorable times.

The only purpose for which an additional queen in a hive might prove profitable would be to secure a greater force for the harvest. In order to do this, it would be necessary to introduce the additional queen early enough in the season to rear bees that would be profitable by being on hand at the time of the honey crop. It takes 21 days for a worker-bee to hatch, from the time the egg is laid. This worker is not a field-laborer until from 14 to 19 days later, in normal circumstances. Thus a queen must be introduced to the hive from 35 to 40 days previous to the time when her first workers are expected to be of use in the fields. If the additional force which she is expected to produce comes near the end of the honey crop, she will be furnishing a lot of consumers that will lose more than they will make. So it is very plain that an additional queen, supposing her to be at once accepted and not molested by either the bees or the mother-queen of the colony, which is always very doubtful, must be introduced very early in the season, if we expect her to help the harvest.

It would also be necessary that the gain thus made be greater than it would be if each queen occupied a hive of her own. If the queen could be safely introduced at any time without greater risks than are incurred in the introduction of a queen to a queenless colony, the proposed course would be much more plausible, but such is not the case. Queens which were accepted, during the reign of another in the same hive, afterwards proved missing. Either the queens had met and fought, while at leisure during the idle months, or the bees had concluded that one queen was enough. Not only we can not depend upon securing a safe introduction at all times, but we may rest assured that one additional queen or the other, as the case may be, will be done away with in the course of the season.

The question before us, then, is whether it pays to sacrifice a queen for a possible increase in the surplus.

Some apiarists who have never reared queens seem to be of the opinion that the queen costs but little to rear. To us it seems that the queen is the most expensive part of a good colony. A beehive well made and painted costs between $2.50 and $4, according to size. This lasts some 30 years. We have had hives exposed to the weather which became worthless at the end of 35 years. Had they been sheltered, they might have lasted longer, and a portable roof which will keep the hive dry will cost only a few cents, if made of rough lumber. So the cost, to the apiarist, of his hive material, including interest on the money and a sinking fund, to replace the hives in 30 years, would not exceed 35 to 40 cents per year. The cost of the foundation for the brood-combs of an ordinary hive is $1 or less. These last as long as the hive, and the wax they contain is still there at the end of the time, returning at least half of the original value.

But the value of a good tested queen in a hive, as early in the season as she would be needed for a profitable rearing of brood, is from $1.50 to $3, and she lives only about 3 years. So the average cost of the queen in the economy of the hive is the greatest, and the life of the colony, the number of bees which carry it through the winter, depend upon her. The colony itself, in the busy season is not considered as worth any more than the queen, and is practically worthless without this most indispensable member.

If we introduce a good queen in a hive having one already, we are taking chances upon the life of either, or both. We are risking the most useful member of a colony, one which would promptly build another, if put with the other parts, less expensive than herself, for a problematical and very doubtful possible increase in production.

If the queen we have to spare is worthless, pinch her head off, and let us not risk having her fight the other and destroy her. If she is as she ought to be—a good tested queen—let us hunt up a colony having a worthless queen and make the exchange. If we have none such, let us make a nucleus, giving the prolific queen to this nucleus, and in a very short space of time we will have one more good colony for honey production.

Instead of believing that the queen is the cheapest and easiest supplied capital of our apiaries, I believe that she is the most important, and the most difficult to supply, at the time of the year when such capital is needed. I therefore strenuously object to jeopardizing such capital by making introductions that are at best a forcing of Nature's ways, and of only possible success.

Hamilton, Ill.

A Wonderful Queen-Food—Overstocking

BY PROF. A. J. COOK.

I notice in a late number of one of our leading bee-papers, and that from one of our leading authorities, the statement that the prepared food that is fed to the queen, young bees, and brood, is a glandular secretion from the "lower head-glands of the worker-bees." This statement is made in one of our leading bee-books, but not in Cowan, who is almost always, if not always, correct. I am sure that it is not true, as I once tried an experiment that was crucial in settling this matter.

The facts in the case are as follows: The bees take the pollen or other proteid food down into the chyle or true stomach, and as it is passed down, they mix with it copious amounts of this secretion from the lower head-glands,

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which is thus a ferment to digest the nitrogenous food, and not the food itself. This digestion is accomplished in the true stomach, and then the peptone, or digested proteid, is passed back into the mouth and given to the bees, the drones, or to the brood, and thus we have the whole process.

One reason that was urged to show that the bee-pabulum was not digested proteid, but the secretion from the lower head-glands, was the fact that from the lower end of the honey-stomach hangs a continuation of the tube which, like the valve at the end of our own small intestine, would act to restrain the food, after it is digested, from passing back to the mouth, and thus regurgitation would be quite impossible. This would be so were all the truth told. The fact is that there are muscles in the honey-stomach that enable the worker-bee to raise the stomach-mouth at the lower part of the honey-stomach, so the valve is obliterated, and it is not only possible, but easy, for the bee to regurgitate the digested proteid.

The experiment that I tried to prove this point, was as follows: I mixed with some honey some finely-ground charcoal. I had before removed the queen, and the bees had queen-cells with newly-hatched larvæ in them. In a day or two I found charcoal in the royal jelly. We know positively that charcoal is wholly non-osmotic, that is, it can not pass through an animal membrane, nor is it capable of digestion, that is, it can not be made osmotic. We see, then, that if the secretion in the lower head-glands was the food of the larvæ, it could not contain the charcoal, which it did contain. This could not get from the stomach except it pass up into the mouth, or down and out through the intestines with the fecal matter. Here, then, we have positive demonstration that the secretion from the lower head-glands is not the food, but rather the ferment, that digests the food and fits it for queen, brood, etc.

This digested proteid food is a wonderful food, as it is what is given liberally to the queen, and what enables her to do such wonderful execution. We know that the queen is able to lay 3,000 eggs in a day, and these weigh nearly twice as much as does the queen herself. Does not this speak volumes for the excellence of this food? I doubt if any food comparable is to be found elsewhere in nature or art. We think of milk as a perfect food, a balanced ration, as the dietist terms it, and it is wonderful, but it gives no such results as we note from this pabulum of the bees. Does it not give us a hint of what man may do? May we not hope to fabricate a food that will enable us to secure much greater results from our domesticated animals? If we could manufacture a food that would secure from our fowls twice their weight of eggs in a day, or from our cows twice their weight of cream in the same time, would it not be a wonderful triumph of human invention? We may hope to do this, but if Nature has wrought so much with the bees, and this all unaided, what may not man hope when he gives to this subject his best thought and study? Already he has achieved much in his prepared food for fowls.

Over-Stocking.

Dr. Miller has his ear perpetually to the ground that he may hear aught that may help or hinder his brothers of the craft. He has had much to say of the danger of over-stocking, and the necessity of some law, written or understood, that would protect the bee-keeper from infringement or trespass in this matter.

I wonder if we know that we overstock our locality? In good seasons in California, the product is sometimes enormous, and may we not conclude that in case we do not get much honey, it is because the conditions are unfavorable, and the nectar is not there to be gathered? It is not rare, in good seasons in California, in very large apiaries where hundreds of colonies of bees are massed in one place, for the bee-keeper to secure as much as 500 pounds of honey from each colony. Would not this argue that with the proper conditions the amount of nectar to be collected was enough for far more bees that are usually kept in one place?

It seems to me that this is a question that should receive from our Department of Agriculture, very thorough investigation, that the real, actual facts might be determined. If we knew that a certain area—say a radius of a mile or 1½ miles—would in an average season maintain an apiary of say 100 colonies, generously, and no more, then we would be warranted in demanding some legislation that would not only protect the bee-keeper that was already on the ground, but that would also give the greatest results to the country. There is no sense at all in crowding so that all are handicapped and unable to do well.

Claremont, Calif.

Report for the Season of 1907

BY WILLIAM STOLLEY.

Reports of good and satisfactory crops of honey this year, appear to be rather exceptional and I am glad to say, that I can give a good report of my apiary, as the result of the season's work just passed.

I put into winter in the fall of 1906, 42 colonies,—rather more colonies than I desired to have. All wintered well, but last spring was anything else but favorable for bees. It was exceptionally cold and backward, and all fruit-bloom was destroyed by frost as fast as it opened.

I fed 200 pounds of diluted honey and sugar mixed—60 pounds of honey, 50 pounds of sugar, and 90 pounds of water—although clear up to June, my bees were well provided with natural stores. At that time I sold 2 choice, well-tested queens for $4.00, killed 4 old queens, and united the colonies rendered queenless, with the weaker colonies left, thus reducing the number of colonies from 42 to 36 colonies, of which 4 colonies were in the "New Heddon" hives while 32 colonies were in my own—mostly 14-frame American hives. This manipulation made all colonies extra strong in bees, with lots of brood, but very little honey, at about the time when (June 15th) alfalfa opened bloom.

About that time (June 13th and 14th) we enjoyed the exceedingly pleasant and long-to-be-remembered visit of Mr. and Mrs. Dadant. Swarming had begun 2 days previous to their arrival, by those colonies in the Heddon hives; from 3 Heddon colonies I had 5 swarms, and but one of the Heddon did not swarm, and from this I obtained 78 nice and well-capped, and 27 nearly finished, sections of honey. In all I got but 151 sections well capped, from the 4 colonies in the Heddon hives.

Sweet clover commenced to bloom about July 1st, and for some time we had a "gusher." Several fields of alfalfa in my neighborhood were allowed to go to seed, which improved conditions greatly.

While the production of comb honey is a rather poor showing in a very good season, a different and much better report I have made on those 32 colonies in the large hives with American frames and run for extracted honey. The bees in these latter hives did not swarm at all. I have extracted 4 times—July 30, Aug. 9, Aug. 29, and Sept 23. The crop secured was 3433 pounds of surplus honey, ¾ of it being light in color and about ¼ amber, or about an average of 107 pounds per colony.

I also got 60 pounds of nice beeswax from cappings.

Four stray swarms hived themselves in my decoy hives on the roof of the bee-shed—they were all hybrids except one, and the queens I destroyed late in the season; the bees were united with other colonies. Thus I have now 33 colonies in large hives with American frames, 12¼x12½ inches, and 4 colonies in New Heddon hives.

All colonies have at least 30 pounds of honey each, and up to 40 pounds of winter stores; also, 350 pounds of honey in brood-frames are set aside for feeding next spring.

I finished winter packing on Nov. 8, and on Nov. 10 and 11 we had the first real cold spell—20 degrees F.—but the temperature is moderating now again.

Thus my 28th year as a keeper of bees (although it had probably the least favorable spring of all years) turned out to be one of the very best of all.

Grand Island, Nebr. Nov. 14.

The Honey-Eaters' League

BY LEGH R. FREEMAN.

As an evidence of the necessity for a Honey-Eaters' League, as well as for an Apple-Eaters' League, I will mention a circumstance that occurred right over here in the Gem State of Idaho.

I went to Grangeville, (a lovely county seat town of 2,000 population), and when I sat down to breakfast, up comes an elegant looking gentleman 6 feet high, dressed in white, born in Wyoming, (a State that I had the honor to name) graduated at the University of Idaho, and advanced waiter in the swell commercial travelers' hotel bear-

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ing the euphonious cognomen of the Jersey House, the proprietor of which was a widely known pioneer, prospector and mining capitalist.

The first utterance he made was: "Wheat Manna?"

I responded: "What in the world is that?"

The answer was: "Predigested Breakfast Food."

I said: "Not any for me, thank you; my digestion is very good, and my appetite is as sharp as the fangs of a wolf, by reason of the stage ride up from Stites over the Grand Camas prairie. Just give me some plain mush made of rolled oats, mountain water and Oneida County Chloride of Sodium. But before you do that, take out of my sight that dish of Ben Davis pumpkins and bring me two apples as a starter for my breakfast—let them be of the Newtown, Spitz, Jonathan or Wine Sap variety."

After I had devoured everything on the table the vision in white remarked: "Hot cakes?"

I said: "Now that depends. What kind of sweets have you to serve with them—is it honey?"

His answer was: "That's what's branded in gold on the bottom of the bottle—Pure Honey made at the Seattle Syrup Factory."

He was told to hike over to a store and get me some bee's honey branded Arthur Hanson's Apiary, Lewiston, Idaho.

After using the finger bowl to clean the nectar of the gods from my mustache, I entered the lobby and to proprietor, Geo. R. Reed, I said: "Landlord, you have an elegantly appointed hostelry here, I and my party will make a stay of a fortnight in town, we don't want any cut rate, but we insist on your decorating every table with the best apples and honey on the market. If you can do that we will remain with you; if not, we will consider it our sacred duty in the interest of the Apple-Eaters' and the Honey-Eaters' Leagues to move."

After that no more Ben-Davis apples or Seattle honey appeared on the tables of the Jersey House, and the fame of the bill of fare has spread to all travelers who demand the purest and best that this region can produce.

Now, friends, let us organize right here by the assistance of these rugged farmers, the professors and the hundreds of students of the agricultural colleges of two grand States, the "Honey-Eater's League."

Honey is a scarcer and more wholesome article of diet than is butter, therefore it should be more in demand and should command a higher price than butter.

If all of you will do as I did at Grangeville, and as I do everywhere I travel, you can increase the demand of honey until it will sell at 50 cents per pound, providing the package bears the brand of an apiarist who is of good standing in the Washington Bee-Keepers' Association; and Seattle honey will disappear from the market.

By the vigorous enforcement of pure food laws, honey made by any creature except the bee will be outlawed.

Let each member of the League constitute himself a committee of one to educate the landlords, the grocers, and the public generally, to the necessity for pure honey.

And to you, fellow apiarists, permit me to say that you need not fear overproduction. There will never be produced enough pure honey.

It is a duty that we owe to ourselves and the community, to see that no prescription is compounded by a druggist in any honey that is not produced in the laboratory of the Apis Mellifica.

Honey is both a preventive and a corrective of disease. It neutralizes acidity of the stomach, conduces to nervous composure, sound sleep, and healthy mind in a sound body.

The most inviting picture in Holy Writ is in the words referring to the Land of Canaan, of which it was said it was the valley "flowing with milk and honey."

When I took to Yakima Valley a quarter of a century ago, the first improved apiary, my neighbors thought the black bee in boxes nailed solid was good enough for them. But I sold them bees and bee supplies, and now we have single individuals who market from 5 to 20 tons of honey per year.

When you look at the snow white alfalfa honey sold in cartons and pyramids by the officers and members of this association, you feast your orbs on something more tempting than "Solomon in all his glory" ever beheld.

When some of it touches the palate, I am always reminded of an incident that occurred in my boyhood days in old Virginia. An old negro and his nephew were riding a poor, crowbate of a horse that could scarcely be urged to a faster gate than a walk. The boy enquired: "Uncle Ben, what am de best thing fur to eat?"

The old man answered: "Sweet taters and gravy."

The little fellow replied: "O no, Uncle Ben, I knows of somefin dat's better'n dat."

Uncle Ben asked: "What is it?"

The youngster answered: "Sweet taters and possum and gravy."

At that the old man said: "Shut up, you little black rascal; you'll make dis hoss run away!"

Now if that little darkie had ever tasted of granulated honey from one of our cartons, he would have added: "Honey and hot waffles."

If you could participate in the banquets that we usually have at our annual meetings you could partake of the most delicious dishes of honey candied in cartons, comb honey, extracted honey, fruits preserved in honey, pickles put up in honey-vinegar, honey-cake, honey-jumbles, honey in pies, honey-candy, and honey prepared for the table in dozens of ways. In staple articles of food and in nicktenoodles, tantaddles and tarts and honey-cumpie victuals.

Both ends of the bee have always been of singular interest to us, and this for opposite reasons. It is a double-ender—one end the friend, the other the foe of man.

My quarters here at the Agricultural College are in the home of Prof. Chas. W. Bean. I am reminded of an incident that transpired when I was a boy riding horseback through the Alleghany mountains. I stopped over night at the Bean settlement, which consisted of two farms owned by Mr. Bean and his son. It was a long way between settlements. When we came to the supper-table, there was a great stack of hot, smoking buckwheat cakes that had been cooked by the bare-footed daughter of the host, in front of an open fireplace, and the old man talked with the greatest degree of gusto, telling me about how he came and cleared away the forest, and adventures he had with the wild game, how he had improved two farms, and that he now had an abundance on his table including apple-butter, peach-butter, plum-butter, pear-butter, cow-butter, and tree molasses, buckwheat-cakes, and honey. Every other minute he would lick out his sharp-pointed tongue as an expression of ecstasy which he anticipated in devouring those delicious dishes, especially the honey and hot-cakes.—Read at the Washington State Bee-Keepers' Convention.

Report of the Pennsylvania Convention

The fifth annual meeting of the Pennsylvania State Bee-Keepers' Association was held at Harrisburg on October 29, 1907. The meeting was called to order by Pres. H. C. Klinger, with prayer by Wm. A. Selser.

The minutes of the previous meeting were read by Secretary F. G. Fox, and approved. The report of the secretary was next presented and adopted. It showed that while the past season, in general, was a very poor one, yet a fair to good crop of honey had been secured in some parts of the State. This was particularly true where the bee-keepers used hives larger than the 8-frame, or by stimulative feeding had kept the bees breeding through the cold, backward spring, so that they were ready for the honey-flow when it came.

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As foul brood has again manifested itself in many parts of the State, the urgent need of legislation to assist in its control and final eradication was again brought home to the bee-keepers.

The secretary recommended that hereafter a fixed salary be paid to the secretary-treasurer for his services.

The membership has shown an encouraging growth, and the outlook of the Association is very promising.

The treasurer's report was next presented, on motion was approved, and a vote of thanks given him for the able manner in which he had financeered the Association.

Prof. Surface, as chairman of the committee on legislation, reported on the work that the committee had done. A bill drawn up and presented by Mr. Carson, was referred to a committee, which, when they met, conferred with the legislation committee that had been appointed, and the bill was reported out of the hands of the committee at once. During the rush of the last days of the Legislature the bill was not called up, and with more than a hundred other bills, was laid asleep. Prof. Surface recommended that we agree on a bill to be presented to the next Legislature. He then read the following that had been presented, and called for criticisms on the same:

AN ACT

For the suppression of contagious diseases among bees in Pennsylvania by creating the office of Inspector of Apiaries, to define the duties thereof, and to appropriate money therefor.

SECTION 1.—Be it enacted by the Senate and House of Representatives of the Commonwealth of Pennsylvania in General Assembly met, and it is hereby enacted by the authority of the same, That upon the recommendation and nomination of a majority vote of the Pennsylvania State Bee-Keepers' Association, or by the Economic Zoologist and the Secretary of Agriculture, the Governor shall appoint for a term of two years a State Inspector of Apiaries who shall, if required, produce a certificate from the Governor that he has been so appointed. He shall be subject to summary removal for neglect or malfeasance in office, on complaint of the Pennsylvania State Bee-Keepers' Association or of twenty persons who are actual bee-keepers, his successor to serve for the balance of his unexpired term.

SECTION 2.—The inspector shall inspect bees kept in the State of Pennsylvania, and when notified in writing by the owner of an apiary, or by any three disinterested taxpayers, examine all reported apiaries and all others in the same locality not reported, and ascertain whether or not the disease known as foul brood or any other disease which is infectious or contagious in its nature and injurious to honey-bees in their egg, larval or adult stage, exists in such apiaries, and if satisfied of the existence of any such disease he shall give the owners or care-takers of the diseased apiaries full instructions how to treat such cases as in the inspector's judgment seem best.

SECTION 3.—The inspector shall visit all diseased apiaries a second time, and if need be burn all colonies of bees that he may find not cured of such disease and all honey and appliances which would spread disease, without recompense to the owner, lessee or agent thereof.

SECTION 4.—If the owner of any apiary, honey or appliances wherein disease exists shall sell, barter or give away, or move without the consent of the inspector, any diseased bees (be they workers or queens) honey or appliances or expose other bees to the danger of such disease, or fail to notify the inspector of the existence of such disease, said owner shall, on conviction, be liable to a fine of not more than one hundred dollars, nor more than two months' imprisonment.

SECTION 5.—By the enforcement of the provisions of this act the State Inspector of Apiaries shall have access, ingress and egress to and from all apiaries or places where bees are kept, and any person or persons who shall resist, impede or hinder in any way the inspector of apiaries in the discharge of his duties under the provisions of this act, shall, on conviction, be liable to a fine of not more than one hundred dollars, or not more than two months' imprisonment in the county jail. All fines are to be turned into the State Treasury.

SECTION 6.—After inspecting infected hives or fixtures, or handling diseased bees, the inspector shall, before leaving the premises or proceeding to any other apiary, thoroughly disinfect his person and clothing and tools and implements used by him.

SECTION 7.—It shall be the duty of any person in the State of Pennsylvania engaged in rearing of queen-bees for sale to use in mailing cages which have been boiled for at least thirty minutes. Any such persons engaged in the rearing of queen-bees shall have his queen-rearing apiary or apiaries inspected at least twice during each summer season, and on the existence of any disease which is infectious or contageous in its nature and injurious to bees in their egg, larval or adult stages, said person shall at once cease to ship queen-bees from such diseased apiary until the inspector of apiaries shall declare the said apiary free from all disease. Any person violating the provisions of this section shall be deemed guilty of a misdemeanor, and upon conviction thereof subject to a fine of not more than two hundred dollars.

SECTION 8.—The inspector of apiaries shall make monthly reports to the Economic Zoologist, giving the number of apiaries visited, the number of diseased apiaries found, the number of colonies treated, also the number of colonies destroyed by fire, and the expense incurred in the performance of his duty. He shall also keep a careful record of the localities where the diseases exist, but this record shall not be published, but can be consulted by any citizen interested.

SECTION 9.—There is hereby appropriated out of any moneys in the State Treasury a sum not exceeding three thousand dollars per year for the suppression of contagious diseases among bees in Pennsylvania.

The inspector of apiaries shall receive four dollars per day and traveling expenses for actual time served, which sum shall not exceed the moneys hereby appropriated to be paid by the State Treasurer upon warrants drawn by the Auditor General, and shall be authorized to employ such temporary aid as he may need at a salary of not more than three dollars per day and expenses.

SECTION 10.—All acts and parts of acts inconsistent herewith are hereby repealed.

SECTION 11.—This act shall take effect immediately.

On motion the report of the committee was accepted with thanks, and the committee continued.

Prof. Surface then spoke of the importance of the bee-keepers to urge upon the legislators the necessity of such a law when the next Legislature convened.

Pres. Klinger then gave the annual address. He told of the strides that bee-keeping had been making. The loss caused by foul brood is as destructive to the bee-keepers as the San Jose scale is to the fruit industry. Another success was the securing of the meeting of the National this year. Another thing we stand for is good fellowship. The people need to be educated to the value of honey and the beneficial results of bees as pollenizers.

The election was then held with the following result: Prof. H. C. Klinger, of Liverpool, re-elected president; C. N. Green, I. F. Miller and George Rea were elected vice-presidents; and A. F. Satterthwait, of Harrisburg, was elected secretary-treasurer.

EVENING SESSION.

The meeting was called to order by Pres. Klinger. The committee on dues reported that they deemed it advisable that 25 cents of the dues of the local association be allowed to remain with them, and the remaining 75 cents be turned over to the State and National associations. On motion the report was adopted.

On motion it was decided that the sum of $20 be paid to the secretary-treasurer as a compensation for his work.

It was voted to hold the next meeting in York, Pa., in October, 1907.

BEE-STING CURE FOR RHEUMATISM.

Prof. Surface gave a very interesting talk on the bee-sting cure for rheumatism, giving a method where by the use of a hypodermic syringe the formic acid could be injected under the skin, causing no pain, and the rheumatism or lumbago would disappear in 48 hours. This does not cure in every case but is a cure in the greater majority of cases.

Pond's extract of witch hazel will relieve the swelling and pain of a bee-sting.

Mr. Reneker, who has had considerable experience with rheumatism and bee-stings as a cure, stated that he had received a severe stinging with the bees and had been completely cured of rheumatism ever since. He has also been immune to the sting of the bee as a result of the stinging fracas.

Mr. France cautioned people who were affected with scrofula to beware of bee-stings, for it is liable to prove fatal to them in a few minutes. Prof. Surface gave it as his personal opinion that a superabundance of bee-stings caused a bloodless condition; that is, a lack or insufficiency of red corpuscles with an excess of white corpuscles. Mr. Holtermann found it advisable to keep some strong stimulant at hand to be used in case of severe stinging, when the heart is affected. Spirits of ammonia was suggested to be used in such cases. Pres. Klinger cited an instant where his aged father had been rheumatic and was stung a number of times on the knee while hiving a swarm, and had had no rheumatism since. This was three years ago.

A motion decided that the executive committee of this association be empowered to send a man to aid or assist in the organization of local associations, as they deemed best.

SECOND DAY.

A meeting was called to finish up some things that had been left over from the preceding day.

Pres. Klinger called it to order. The committee on resolutions offered the following report, which was adopted:

We, the members of the Pennsylvania State Bee-Keepers' Association in convention assembled at Harrisburg, Pa., Oct. 29, 1907, offer the following resolutions:

Resolved, That we express the thanks of the Pennsylvania State Bee-Keepers' Association to Dr. N. C. Schaffer, Superintendent of Public Instruction, for granting us free use of the audience of his department for our meeting, and also the use of the adjoining room for our exhibitions.

Resolved, That we thank the Department of Agriculture, Washington, D. C., for granting leave of absence to Dr. E. F. Phillips, Burton N. Gates, and Franklin G. Fox, to attend our convention.

Resolved, That we thank our retiring Secretary, Franklin G. Fox, for his untiring efforts in behalf of the interest of our association.

Resolved, That we thank N. E. France, Geo. W. York and R. F. Holtermann, for their presence and interest taken in our State meeting.

Resolved, That we recommend individual action by our members to increase the usefulness and membership of our State Association, and united action in supporting nominee, Prof. H. A. Surface, for election as a member of the board of directors of our National Bee-Keepers' Association.

GEO. H. REA,
E. S. HACKER,
J. D. HULL,
Committee.

The subject of gathering crop reports

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was taken up and discussed. It was decided that we refer the subject of publishing statistics to the president and secretary.

A motion was made and carried that the report of this year's meeting be incorporated with last year's report.

R. F. Holtermann was unanimously elected a member of the Association.

Mr. Hilton, of Michigan, gave a very interesting talk on foul brood legislation. He urged that every member write to his representative when the bill is presented, and then its passage is secure.

A motion was made and carried that we extend our hearty thanks to Pres. H. C. Klinger for the time and money he spent in behalf of legislation during the past winter.

Vice-Pres. George Rea suggested that we publish notes on this meeting in our local papers.

On motion the meeting adjourned.

FRANKLIN G. FOX, *Ex.-Sec.*

Minnesota-Wisconsin Convention

The annual convention of the Southeastern Minnesota and Western Wisconsin Bee-Keepers' Association will be held in the Court House at Winona, Minn., Feb. 26 and 27, 1908. Those interested are invited to be present.

OZRO S. HOLLAND, *Sec.*

Winona, Minn.

Western Honey-Producers' Convention.

On Thursday, Feb. 6, 1908, there will be a morning and afternoon session of the Western Honey-Producers' Association in Science Hall Library Building, Sioux City, Iowa.

Foul brood and the marketing of honey will be the principal topics. There should be a large attendance of bee-keepers.

By W. A. PRYAL, Alden Station, Oakland, Calif.

The Weather in California.

So far the coming year gives promise of being a fruitful one, that is, if a plentiful rainfall may be taken as an indication. The holidays were moist under foot, with evidence of lots of water over head. The earth in this portion of the State (Dec. 30) has been sufficiently rain-soaked to allow of extended cultivation. When the sun shines the bee is on the wing, so that the eucalypts, acacias and other nectar-secreting trees harbor a merry multitude of happy workers.

The Cytisus in California.

All through December and, perhaps, for a month or two later, *Cytisus proliferus* is in bloom in Central California. I have noted this plant heretofore in these columns, but as its season of inflorescence is again here, I must mention the fact that the bees are working on its blossoms with the same vim that I saw them display last year. The tree has only been in a flowering state on our place now for the third time. At this writing (Dec. 30) the tree is white with bloom. Our trees are 8 or 10 feet high; they look like giant clovers—hence the name, "tree-clover," as they are often called. The plant is a native of the Canary Islands. It is quite hardy in this portion of the State, and, I should think, it will make a splendid addition to the bee-flora of the lower counties, where it can be given a moist, sandy location. The plant belongs, I believe, to the laburnum family. Prof. Bailey, in his Cyclopedia of Horticulture, gives the name as I have above, but I find that the University of California and Prof. W. K. Morrison (the latter in the Roots' A B C of Bee Culture) adds *albus*, which seems unnecessary, inasmuch as there is only the white variety.

Our Fair Bee-Keepers.

Recently in casually looking over the pages of the New Brunswick Magazine for September, I noticed an article entitled, "Woman and the Bee." Not having time to read it I laid the publication down, first looking, however, to see who was the author of the article. I was pleased to find that it was by the daughter of one of our largest honey-producers—J. F. McIntyre. Miss Flora McIntyre was born and reared on a Ventura-county apiary, and besides her sire being a bee-expert, her mother and grandfather were as well, the latter being the late R. Wilkin, a pioneer of the lower counties of the early seventies. The article is illustrated, and no doubt very interesting.

Wickson's Worth Wins.

Some months ago I mentioned that there was a rumor afloat that Prof. E. J. Wickson, Dean of the Agricultural College of the University of California, was to be succeeded as dean by an Eastern man. At the time I expressed a hope that the change would not be made. As nothing has been done to oust the professor, it is likely nothing will be, for over 30 years of service at the California College, and an experience in California agricultural and horticultural matters that is not possessed by any one else, make him too valuable a man to remove from the position he so well fills. The Professor has been a good friend to the bee-keepers of this State. His position as editor of the Pacific Rural Press has allowed him to uphold the bee and honey industry, and he has not neglected any opportunity to do so.

Bees Still Shaded at the University.

On a former occasion I took the opportunity to mention the fact that the bees of the University of California are buried in dense shade. A few days ago I was visiting the University grounds, and I found the colonies in the same spot. The bees have to "sift" their way through the foliage to get to their respective homes. The location of the apiary is in otherways a peculiar one. It is on the bank of Strawberry creek, right at the end of one of the main streets that leads to Berkeley—in fact, it is the most direct from Oakland to the University. The colonies are just inside the fence which comes very close to the creek at this point. As few teams come near this spot there is little danger of horses being stung.

I am surprised that the Entomological Department of the University does not do something to find a better location and build up a model apiary. I noted that the number of colonies were 13. The superstitious would likely say, "No wonder they don't do better." But they will, if given a proper show.

Do Pleasures, like Bees, Carry a Sting?

In a brief note I received a short while ago from the "Sweet Singer of Santa Clara Valley," Miss Marcella A. Fitzgerald, was this beautiful sentence: "The bees: well, like all pleasures, they carry a sting."

Yes, I may add, to some who are not over-indulgent, the sting never pierces them, and how seldom is the careful apiarist injured by the bee's sting. To get sweets we need not be stung. Neither when we inhale the delightful fragrance of a rose need we suffer from the thorns that are everywhere about. It would seem that the Creator fortified nearly all the sweets he gave us with a sting or thorn of some sort; and he gave us instinct to be wary of the evil that lay in our way. Perhaps it would be uncharitable to say it is the fools that "run up against" the stings, yet such seems to be the case. And many of us are foolish, or do foolish things, at times.

Winter's Wintery Winds Withering.

This heading is laid on heavily that I may the better emphasize the necessity of having snug quarters for the bees during winter. While it is true the California bee-keeper has none of the wintering problems of his Eastern brothers to contend with, still, it is necessary to see that bees are protected from the rain and winds even in this State. The two main things to guard against are

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(1) leaky roofs, and (2) too much entrance space. Have covers fit snugly—if they extend over the edges of the hives an inch all around all the better. Then there should be no cracks, or knots where water may leak through. If you can't procure whole, sound cover-boards, use tin or roofing paper to cover the entire upper surface of the board or boards.

Contract entrances to a half inch or less for weak colonies. An inch will be sufficient for the stronger colonies until say in February, when the colonies will be growing stronger naturally. Then see that all weak colonies are sufficiently provisioned during the winter to keep them from starving. Better feed late in the evening so as to foil the bees that are always ready to rob.

Danger of Glass with Honey.

Sacking comb-honey in a Sackett wrapper may be a good thing for the sellers of Eastern honey, and it is surely an appropriate name. It is neat, clean and serviceable, to say the least. I never did believe glass should be used about a honey-section. The danger of the glass being broken and particles of it adhering to the comb, and later finding their way into the consumer's stomach, is too serious a matter to be tolerated. I don't know how many deaths in the East may have resulted from such accidents, but I am confident there were none in California, for the simple fact that here no one glasses honey-sections. Perhaps it is for the reason that our honey is so nice that it does not need any fancy after-fixing to make it salable; or, maybe, glass is too expensive to be so used. At any rate, humanity and the bee-keeper's pocket-book are the gainers.

Dandelions and Morning Glories.

The editors of Gleanings in Bee Culture have blown a loud blast in favor of the dandelion as a honey-plant; they also claim that it is good for food for man and beast. They did not put it just that way, but, in plain English, that's what it amounts to.

Yes, I heard that dandelion greens are good to eat, and that it is also a good spring medicine; but I never heard that it was a butter-producer. Still, why shouldn't it be such? If the stems are broken the "milk" will flow, so *where there's milk there must be butter!* Here in California, we have no use for the dandelion; it is a weed to be abhorred. It is a pest hard to get rid of.

And here I would say that we have another pest that is hard to get rid of, and that is a certain morning glory that grows, and grows, and won't "vamose the ranch" once it gets ever so small a foothold. Its roots run deep and every which way in the earth. Cultivating the land only spreads the pest. I have never met any one who has yet rid a piece of land of the morning glory when once it has started to grow. Aside from being a honey-secreter of some merit, and also furnishing an everlasting supply of green feed for cattle, it has no redeeming qualities, and these will not be considered sufficiently extenuating to prevent a jury from bringing in a true bill against the culprit.

The Bees that "Make" the Honey.

A correspondent of Green's Fruit-Grower informs the readers of the May issue of that paper "that it is the female honey-bee which makes the honey, and that all others are not honey-makers," and the editor gives the statement a prominent position, without comment. "All others are not honey-makers." Did you ever? A colony of bees, as every one knows, consists of a queen, some drones, and an army of undeveloped females, commonly called workers and sometimes referred to as neuters. At that rate the queen "makes honey," as she is the only *true* female in the colony. Study up on bees, Mr. Green. They are good for fruit, and honey and fruit are good for your table.

Somewhat Mixed, Isn't It?

Here's an astounding piece of information given in Australian Bee-Bulletin:

"The average amount of honey taken from a British hive is 50 pounds, double the American average. The record 'take' from any hive was 1000 pounds from a colony of Cyprians."

Hiving Bees in a "Jiffy."

"A learned orthodox writer in a blase Eastern bee-paper recently spoke about the necessity of hiving bees in a jiffy. I have searched all the catalogs diligently, but can find no mention of, nor price fixed on 'jiffies.' I am experimenting and spending money on all the Eastern plans and appliances, and would be willing to try this method if I could only learn what supply house is offering the article for sale."—Jno R. Ragle, in American Bee-Keeper.

Likes "Forty Years Among the Bees."

"I have recently read Dr. Miller's 40-year book, and I wish the young fellow would hurry and write two or three more, as this one is entirely too short; or perhaps it is so interesting that one reaches the end too soon. Well, I shall read it over again, anyway, and more slowly next time."—Jno. R. Ragle, in American Bee-Keeper.

This book is sent postpaid for $1.00; or with the American Bee Journal one year—both for $1.25. Send all orders to this office.

Successful Breeding in the Cellar.

In The Canadian Bee Journal, Mr. Grosjean says this:

"I had one very light colony. There were not more than 3 or 4 pounds of honey in the hive when I took them into the cellar. It was very full of bees, and I did not like to disturb them in the cellar. I could not find any frame but what was covered with bees, so I took them and fed them about 15 pounds of one-third sugar. It was buckwheat honey. I made it warm and took it down the cellar and fed them. I looked at them a day or so afterwards and they were quiet. Then I made up my mind that should do then till the spring, but I found I had to give them more later on, and they were the best colony I ever had. I got 40 to 50 pounds more honey from them than from any other colony."

Melting Honey in Cans.

"In regard to liquefying honey in 60-lb. cans, I would say that, after putting the can in the water, you must remove the cap and press the top of the can down to the honey by striking the top of the can with the palm of the hand, thus forcing the air out; then put on the cap and screw down tight; leave in the water until it is all liquefied, then remove and let it stand until cold before removing the cap, and you will have no over-flow, no burst cans, no foam, and no loss of aroma."—Elias Fox, in Gleanings.

Hunting Bees in Texas.

I hunt bees for recreation and to save swarms that would starve if left in the tree and take a *chance* on the possible profit, and I have driven into the country in the fall and brought home swarms where others had cut the trees, robbed the bees of their honey, and left them to perish. Two years ago I wintered ten swarms that I took from trees, mostly of my own finding. My method is this:

I have a box made of thin boards, 17 inches long, 11 inches wide and 6 inches deep, with 3 very thin boards 5 inches wide, slipped inside between thin cleats tacked inside the ends (wooden combs or dummies), for the bees to cluster on, with half-inch space at bottom and top, so as not to crush the bees and allow them free passage. The cover is thin boards with half-inch cleats on each side to slip down over the top of the box, with four 1½-inch holes, one near each corner, with wire screen tacked on under one side to give plenty of air, cover fastened on with a wire hook and a screw-eye at each end, and a strap firmly nailed across the top for a handle to carry it by. Then I bore a 1½-inch hole in the center of one side at the bottom, and this is closed with a little sliding gate that also has a 1½-inch hole in, covered with wire screen. This box, by taking the three division-boards out of the cleats and laying them in one

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side of the box, makes room for a whisk-broom, smoker, and honey-knife; and when thus packed I slip it under the buggy-seat with my ax and hunting-box, and set a lard-can with the cover on, in front of the seat, and hitch up my team, and away I go to some place favorable for bees; and, after getting permission from the land-owner, I usually put my team in his barn and feed them, and away I go with hunting-box to attract the bees so I can trace them; and when I find the tree I return to the buggy and get my outfit and cut the tree by falling it on to some small tree to break the force; blow a little smoke in at the entrance and chop in two cuts and split off one side; then I set my box on the log, close it, and proceed to take out the combs and brush the bees in front of the entrance (always making sure to get the queen in); and in they go. I cut the honey out and put it in the can and put the empty combs and brood on top of it and put on the cover and wait an hour or so for the flying bees to get in the box.

When I get home I fit up a hive with honey, cut out some of the old combs, and insert the brood in the combs, jar the box down on the ground, which loosens the bees from the cover which I remove, and dump the bees in front of the hive, and in they go.

I have eight swarms thus taken last fall (the last one Nov. 28); all are apparently in fine condition and perfectly contented. Out of the eight, only three had enough honey to have wintered them. I have had but one man refuse to let me cut a tree, for I usually divide the honey with the owner of the land.

I enjoy hunting any and all kinds of game; but there is a fascination about bee-hunting that I find in no other kind. I like to watch them as they cautiously at first approach the box; then, after filling themselves, watch the zigzag circles they describe before they make straight away.—Elias Fox, of Wisconsin, in Gleanings in Bee Culture.

Is Honey a Luxury?

This question possibly involves the question why so little honey enters into the menu of our everyday life. We have grown into the habit of treating it as a luxury rather than one of the necessities. We have entirely forgotten that it is both food and medicine, and that the little ones who eat honey every day have less craving for those sweets which are injurious to their health, and that they are less liable to the ailments so incident to the lives of children; that the visits of the family physician are few and far between in the families where honey enters into the every day diet.

Our grandmothers understood that cakes sweetened with honey remained moist and were palatable for a long time after those sweetened with sugar were too stale to be eaten. The reason for this is that honey has a wonderful affinity for moisture, and that instead of drying out and becoming worthless they grow more moist with age.—C. M., in Rural Californian.

Varieties of Wild Bees.

Some people think there are only two or three kinds of bees—the honey-bee, the bumble bee and possibly one kind of smaller wild bee. So far is this from being true, that no less than 1878 different species of wild bees have been described from North America; that is, including all the country north of Panama, up to the present day. When we come to study the habits and structures of all these bees, it is possible to understand why they are so numerous in kinds.

The pollen of flowers has to be carried by insects; that of one flower to other flowers of the same sort in order to bring about the fertilization and production of seed. Of all the insect carriers the bees are the most important. They visit the flowers for nectar and pollen, to store up in nests for their young, and when so doing they carry the dust-like pollen from flower to flower, leaving a little of that previously gathered each time they alight upon a blossom. Now suppose all bees visited indiscriminately every sort of flower, it would continually happen that the pollen of one species of plant would be left on the flower of a quite different species, where it would be altogether useless. It is desirable, therefore, that each kind of bee should visit one particular kind of plant, or at least should prefer certain kinds. This we find to be more or less the case, and there are many bees that never visit more than one sort of flower.

The number of different kinds of flowers is very great, and consequently it is not surprising to find that there are many sorts of bees. In numerous instances we find the mouth-part of the bees exactly suited to the kind of flowers they visit. Thus certain kinds with very long tongues can suck the nectar from long, tubular flowers, such as the yellow-flowered currant, while others with short tongues can make use of shallow flowers. It is the case of the fox and stork over again.

Although the described North American bees are so numerous, it is practically certain that we do not know half of those existing. Indeed, it is not impossible that the North American continent, with the West Indies, possesses as many as 5000 species. In New Mexico, up to today, 508 species have been found, and of those I have been able to describe 315 as new. The discovery and description of new species is, however, only the beginning of the work.—Rural Californian.

Breeding from Best Honey-Gatherers.

Dr C. C. Miller says this in Gleanings in Bee Culture:

"It may be remembered that for several years I had been breeding from queens whose colonies gave largest crops, with least inclination to swarming, regardless of color, my bees being hybrids with Italian blood predominating, but with evil tempers, and that last year I got 10 Italian queens with the expectation on the part of a certain editor, as also a strong desire on my part, that the best of the 10 would turn out to be equal to the best of my hybrids. The past season was not one which allowed a big yield from any colony, white clover blooming freely but not yielding—at least till late in the season, and not much then—but later on I had a fair flow of white honey from other plants, allowing a fair chance for comparison. The Italians seemed in the lead at building up strong, and I think they held that lead throughout the season. But they didn't seem to take hold at storing with the same vim as the hybrids. No. 34 was the best of the Italians, and it produced 96 sections. The best of the hybrids was No. 211, which produced 168 sections, or 75 percent more than the best Italian. I don't think that shows that Italians in their purity are poor, but that persistent selection for years in breeding from best honey-gatherers without regard to color has materially increased the yield of my hybrids. The question is whether I might not have done as well to have adhered rigidly to the pure bloods. At any rate, if I had it to do over again I think that's what I should do. Another question which immediately confronts me—and I'd give a good deal for the right answer—is this: Shall I give up the fruit of years of selection, and start in afresh with pure blood, or hold on to my big yields and live among hornets?"

Editor Root comments on the foregoing as follows:

"Better keep on breeding those 'hornets.' If there is a difference of 75 percent between them and the gentler strains of Italians, you can well afford to wear a veil and wear bee-gloves, because the mere matter of stings can not compare with one of dollars; and, after all, one can put on enough armor so that he would suffer no great inconvenience, and on the other hand he has the comfortable assurance that no mischievous boys or petty thieves would meddle with the hives.

"At one of our outyards, when we had been having some trouble from meddlers, we put a very cross colony at the front entrance of the yard. We afterward learned that some boys concluded they would help themselves to some honey. They 'tackled' this particular colony because it was right handy. An eye witness described the events that followed as something really funny. The boys ran only because they couldn't fly. Of course the one season should not be regarded as a final test between those hybrids and Italians. We hope Doctor, you can continue experimenting for several years, at least. In the meantime we are of the opinion with yourself that, if you had devoted the same time and thought on a pure strain of Italians, you would have secured practically the same results so far as honey is concerned. Mr. Alexander believes that he has pure stock that will equal any hybrids, besides their being much more pleasant to handle."

Apiarian Pictures

We would be glad to have those who can do so, send us pictures of bee-yards, or of anything else that would be of interest along the line of bee-keeping.

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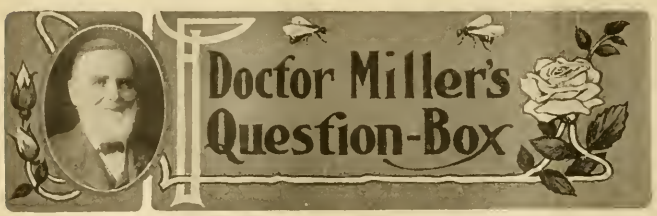

Send Questions either to the office of the American Bee Journal, or to
DR. C. C. MILLER, Marengo, Ill.
Dr. Miller does *not* answer Questions by mail.

Swarming—Sections in the Brood-Chamber.

1. Suppose in swarming time my colony A swarmed once. Two or 3 days afterwards colony B swarms also. While this B swarm is still hanging on the tree I go to A and cut out all queen-cells, insert 2 fresh, empty combs in the center of hive, and then get the swarm on the tree and put it into A. Will it work all right, or will they swarm out again?

2. Will it work better if A has swarmed twice or even three times, or does it make no difference? My idea is to keep down increase and at the same time put A to work in the super. Of course I should treat B the same way if I had a swarm from C, and so on.

3. What do you think of putting sections down into the brood-chamber, say perhaps 2 framefuls on each side?

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ANSWERS.—1. I don't know. I think it would work sometimes and sometimes not.

2. I think it will make a decided difference, whether a second swarm issues from A or not. If you hive swarm of B in it a week or more after the prime swarm issues from A, there will be less danger of swarming out than only 2 or 3 days after.

3. The plan is not used as much as formerly, if indeed it is now used at all. If you leave the sections below to be finished, you are likely to have pollen in them, and also to have the cappings darkened. When sections have been put below it has generally been merely to get the bees started in them and then to put them up. But it is hardly advisable to put them below at all.

Sweet Clover — Keeping Bees on Shares.

I see you have experimented with sweet clover, and I would like to have you tell me about it.

1. What are the objections to it?

2. How would it do to put it on poor, bare spots in a pasture?

3. Would the stock keep it eaten down till it would not spread?

4. Forty miles southwest of Springfield, Ill., I have 60 acres of apple-trees just coming into bearing, and I think of starting some bees. As I farm by proxy what should I do for a start, and how can my man learn what to do? I shall give him half the surplus honey to pay him for the care of them. All I know is what I would like to have the bees to pollinate the fruit-blossoms. I don't know how many, what kind, when, or anything about what I should have. There are bees about 2 miles from my place, but I believe they have too many blooms to the bee. ILLINOIS.

ANSWERS.—1. The objection to sweet clover is the same as to red clover or any other plant that may be in a place where it is not wanted. On the roadside, where wheels carry the seed along, it will spread many a rod in a few years, but in a field it will spread very slowly, and it is perhaps no harder to kill out than red clover. Many value it as pasturage for horses and cows, or for hay. Perhaps it would not be a bad answer to your question to say there is no objection to it, for the objection given may also be made to any of the clovers or grasses.

2. It will do all right; only if the pasture be poor, forcing stock to eat it down too close, the young sweet clover plants may be killed out.

3. I'm not sure what you mean by that question. If you mean, would the stock keep it eaten down so that it would not spread as much as you desire, so as to have the bare places filled up, I would say that unless pastured down quite close the first year, the likelihood is that there would always be enough blossoms and seed left to keep the ground seeded down fairly well. For you will understand that it needs constant reseeding, being a biennial, coming from the seed the first year, blooming the second year, and dying root and branch the following winter.

If you mean to ask whether the cattle would keep it eaten down enough to keep it from spreading on adjacent ground where not wanted, the probability is that the cattle would make no difference, unless they should be able to kill it down altogether. But as already said, it is not a rapid spreader in fields.

4. The easiest way to make a start would be to buy 2 or 3 colonies of bees from some one near by, so as to avoid charges, and if you can not do that to buy nuclei or full colonies from some one farther away.

If you have to send away, get Italians; if you can get them near by, you needn't be so particular; get any kind you can, and you can change the breed afterward.

I said get 2 or 3 colonies. That's the stereotyped advice for a beginner; begin on a small scale, and any mistake you make will not be very expensive. In your case it may be better advice to say at least 5 or 6. For if no bees are within 2 miles, you can count on very little help from outside to fertilize your blossoms, and it may pay richly in the matter of better fruit crops for you to buy a larger amount of bees even if they all die the first winter.

For any sort of success with bees, it will pay well to spend a dollar or so for a good book on the subject, and the small amount of 50 cents for the American Bee Journal will also be a wise investment.

Some Prime Essentials in Bee-Keeping.

I would like your opinion as to whether the matter in that article on page 724 copied from the Dallas News is entirely reliable. KENTUCKY.

ANSWER.—When I first read the article to which you refer, I made the mental comment that Mr. Robinson had not only written a very readable article, but that it was also quite reliable, much more so than a good deal of the matter published about bees in publications other than bee-papers. Now that I have read it over again I see no reason to change my view in general; only that for the sake of strict exactness some little items might be changed, although for the sake of brevity Mr. Robinson may not have thought it worth while to be so very exact.

Mr. R. says the dovetail hive "is made of such dimensions as to contain 8 or 10 frames, known as the Hoffman self-spacing frame." That is strictly true. It would have been equally true if, instead of saying Hoffman frames he had said Miller, or Langstroth, or any other frames 17⅝x9⅛ outside measure. The trouble is that as Mr. R. has expressed it, some may suppose that only Hoffman frames are used in dovetail hives. While the Hoffman frame is largely used in dovetail hives, there are many using dovetail hives who could not be induced to use the Hoffman frame.

If one desires to be very critical, one might take exception to the statement that in a frame of comb "there are 25 cells to the square inch." Of course Mr. R. knows there are less than 25 cells to the inch in drone-comb, and even with worker-comb there is variation. Worker foundation has not always been made with cells of the same size and where bees build worker-comb without foundation there may be less than 25 cells to the square inch, or there may be more.

If a rule be laid upon a worker-comb, without being very exact one will be likely to say there are 5 cells to the linear inch. It must be remembered, however, that 5 cells to the linear inch does not mean 25 cells to the square inch. That would be correct if the cells were square, but into the same space there can be got more hexagonal cells than square ones. Cheshire, Vol. 1, page 176, gives it as 28 13-15 to each square inch.

Now comes a rather serious error, evidently from carelessness in making the wrong figure. Mr. R. says: "A frame contains 136 square inches of surface, and as there are 25 cells to the

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square inch, you have 2400 cells to the frame." Of course that "2400" should be "3400," and insead of 48,000 cells for 10 frames there would be 68,000, all on the basis of 25 cells to the square inch.

If, instead of 25, we figure on 28 13-15 cells to the square inch, we will have 78,517 cells, instead of 68,000, in the 10 combs—quite a difference. It is quite possible, however, that the smaller number may be nearer the truth, for good bees may not be satisfied, if left to themselves, to build cells as small as 5 to the linear inch.

Hybrid Bees and Italians.

I see that you and Miss Wilson still insist that hybrids are the best honey-gatherers. Yours must be different from any I ever get.

This year was a poor one. June 10 I had 75 colonies all in poor condition, some with brood half dead, chilled, and starved. Sixty colonies are pure Italian and 15 are hybrids, first cross, as I keep mismated queens only one year, never allowing them to swarm or supersede. I keep pure drones. The hybrids I run for extracted honey and Italians for comb. The result was, the hybrids stored from 25 to 60 pounds extracted honey being supplied with empty combs; the Italians stored from 40 to 96 pounds of comb honey and gave 15 percent increase. From those 15 hybrid colonies I got more stings in one day than from the 60 Italians all summer. In 1903, 1904, 1905, I had a queen that I believe was equal to Root's famous Red Clover queen. This is a poor locality, yet she gave me over 500 pounds of surplus honey in those 3 seasons. I also got 10 daughters from her. Seven were mismated. All proved poor honey-gatherers. The 3 purely mated were fair but nothing compared to their mother. I had another queen those 3 years that did not give one ounce of surplus, and 2 falls I had to feed her colony. I got 3 daughters from her. All mated pure, and, strange to say, they are the ones that produced 96 pounds this year. So you see as long as my neighbors keep black and hybrid bees I can't accomplish much by breeding from best stock. With me the first cross will degenerate 40 percent, as honey-gatherers; and blacks never give any surplus here.

I had a colony of hybrids that annoyed me so this fall that I killed the queen and gave them an Italian in a cage, letting cork be over the candy 3 days. On releasing her they killed her. I removed all their brood and gave them another queen, leaving the cork over candy 2 days. They killed her. I pounded them up then till they gorged themselves with honey, shook them in front of the hive, and let another queen run in with them. I found her dead the next day. I looked for some brimstone then, but failing to find any I set them on top of the strongest colony in the yard, hoping to see them strengthened, but not a bee killed. NEW JERSEY.

ANSWER.—Please allow me to say that you misunderstand my position, in which you are not alone. Instead of saying that hybrids are better than pure Italians, I have in general advised pure Italians. One prominent writer across the water, for whom I have great respect, hints at inconsistency on my part for advising pure Italians while myself keeping hybrids.

As a fundamental starting point, let me say that all Italians are not alike. Some are better than others. The same is true of blacks and hybrids. Another thing commonly accepted as true is that introduction of fresh blood is likely to give new vigor. So when Italian blood is introduced into an apiary of blacks, the introduction of the fresh blood is an advantage, without reference to the question of whether Italian or black blood will secure hybrids that will be a great improvement on his blacks. Indeed, in many cases the hybrids are found to be better than either black or Italian blood in its purity, just because of the fresh cross.

But now comes in an item not so generally recognized as it should be, and that is, that a cross of Italian and black blood is not so reliable to perpetuate its characteristics as the pure strain of either kind. With the pure strain you are likely to have offspring of the same kind as the parents, while with the cross, things seem to be split up and go in all sorts of directions.

I'm not sure that I have put these things in language scientifically correct, for I'm not a scientist but only a common bee-keeper, but I think my statements are not far out of the way.

So much for theory; now let me turn to practise, and say what I have done.

Some time ago I began keeping close tally of the amount of honey secured each year from each colony, and I can, at the present moment, by referring to the records, tell what any particular colony has done for a number of years past. At the same time I began breeding from the colonies giving best yields, paying little attention to the matter of color. As a result I have today bees that are hustlers at honey-gathering, although there is some black blood in them, and the past season these hybrids, in competition with pure Italians that were considered choice stock, showed themselves superior by the fact that the best colony of hybrids stored 75 percent more honey than the best colony of pure Italians.

Does this prove that hybrids are superior to pure Italians? By no means. It does prove that years of care in selecting has given me some very energetic hybrids, but the question remains whether I might not have had still better results if I had all through those years held to the pure blood. With pure-bloods I feel pretty sure I would have had better temper, for some of my hybrids are exceedingly vicious. And the likelihood is that my mixed blood will more easily go wrong in its posterity than would pure-bloods.

Frankly, I am very much afraid I have made a mistake in not sticking to pure blood, and if I had it to do over again I think I would be careful to keep out black blood, unless I could have, as they seem to have in Switzerland, blacks that are better than Italians, and in that case I would stick to the black blood.

Mr. J. E. Crane gets good results by pursuing a different course. He constantly brings in fresh Italian blood of pure stock, allowing the young queens he rears to be fertilized by his hybrid drones. But you see that is quite a different course from continuously breeding from hybrid parents on both sides. Indeed, if he rears his young queens always from pure mothers, will he not be constantly approximating pure stock, while at the same time having always the advantage of the introduction of fresh blood?

Now let us see how it is with your bees. You find that the pure-bloods surpass the hybrids. Nothing unusual about that. Indeed, I think it is the general rule. The fact that carefully selected hybrids may be better than pure-bloods not so carefully selected by no means conflicts with the possibility that hybrids in general are inferior to pure-bloods; and so there is no inconsistency in my advising to breed for pure blood, nor indeed in my following my own advice.

Your experience in having a colony so determined not to accept a queen, while not common, is very trying. Sometimes you may bring such a colony to terms by moving it to a new stand so it will lose its field-force by their uniting with other colonies.

Oil-Cloth for Winter Hive-Protection.

I am trying to winter my bees on the summer stands, and have pasted oil-cloth on all sides and the top of the hives, except an opening on the front side. Will this offer enough protection for southern Kansas?

A SUBSCRIBER.

ANSWER.—Likely it will; especially if buildings or timber break the winds from the prevailing direction.

Moving Bees to Northern Michigan.

Will you advise me in regard to moving bees as far north as Ontonagon County, Michigan? Will they stand the cold climate there? and would they produce honey enough to pay to take them there? Are bees kept as far north as the above? MICHIGAN.

ANSWER.—Oh yes, bees have succeeded farther north than that. The only question is to find a place where there is good pasturage. There are places in northern Michigan that are counted extra good because of the acres of raspberries or fireweed.

Caucasians vs. Italians as Honey-Gatherers.

Are the Caucasian bees as good honey-gatherers as the Italians? Are they more gentle to handle? A SUBSCRIBER.

ANSWER.—Reports as to the character of Caucasians are very contradictory. There is probably no question that at least some of them are the very gentlest bees known; but some others are reported as no better-natured than Italians. As to their gathering qualities, reports, on the whole, hardly place them as equal to Italians.

Points in Judging Comb Honey.

What are the points considered in judging comb honey? Are they only taste and color? Should a section of honey with section all white and clean, evenly capped, built out well in the corners, and clear honey, be turned down for one daubed with bee-glue on the section, and unevenly capped, for a small difference in flavor? The question is: Is it only flavor, and how strong is the point of flavor? ILLINOIS.

ANSWER.—I don't know how to answer from the standpoint of a judge, as I never did any professional judging, but I may say that for my own use, if I were buying honey, the

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quality of the honey inside the comb would outweigh everything else. Even if the capping were all black with travel-stain, I wouldn't mind that if the honey itself were all right. But I can't judge honey that way when I'm putting it up for the market. The whiteness and beauty of the outside seem to be the chief things for the market. Perhaps the editor, who has had experience as a judge at the Illinois State Fair will tell us something about it.—[Appearance, uniformity of capping, etc., are considered as well as flavor. Perhaps Mr. N. E. France will give us something on this. —EDITOR.]

Hauling Bees Before Cellaring Them.

Would bees winter well after being hauled about one mile to be cellared, all other conditions being favorable? I can not find an answer to this question in any of my text-books (of which I have 3), as bees moved home from out-yards are moved a sufficient distance so that they may be allowed a flight, and then put in the cellar without any disturbance, as may also those whose summer stands are close to winter quarters. MAINE.

ANSWER.—What little experience I have had in this direction has been unfavorable, but others have reported moving bees one or several miles, putting them directly into the cellar without any flight, and no bad results followed.

Doubling an Apiary and Securing Honey.

I have 41 colonies of bees. Can I make 80 colonies next year, and secure much of a honey crop for 1908? KENTUCKY.

ANSWER.—That depends. In a poor year, with a poor location, you can't make it. In a good year, in a fairly good location, you ought to make it easily.

Sulphur Cure for Bee-Paralysis.

Last summer I had one colony of bees that became affected with paralysis. The symptoms of this disease were so plainly marked that there could be no mistaking it for some other disease.

It occurred to me that I had read in some bee-paper that Mr. Poppleton claimed that sprinkling the combs of bees thus affected, with pulverized sulphur, would cure the disease.

I tried to look the matter up, but failed to find anything in the bee-papers to support my recollections. However, I tried the sulphur treatment as I remembered it, and to my great surprise, the disease disappeared in a short time. Was this the result of the treatment, or had the disease run its length?

CALIFORNIA.

ANSWER.—In the North—at least as far north as northern Illinois—the disease is pretty certain to disappear of itself in a short time; and so whatever means were last used before the disappearance is likely to get the credit for the cure. Indeed, the disease is of so little importance that it is not worth while to consider it very seriously. In the South, however, it is a very different matter, and I should suppose that in California you would have it more as it appears in Florida than as it appears in Illinois, and it is not likely to disappear of itself. On that ground my guess would be that the sulphur had something to do with its departure.

Transferring Bees.

I recently bought 3 colonies of bees in home-made box-hives, and wish to have the bees transferred into up-to-date, modern hives, but do not know the inside dimensions of hives mostly used in Canada.

1. What is the difference between the standard size frame of the British Bee-Keepers' Association and the one in use here—the Langstroth frame?

2. What is the best method to adopt in transferring bees from a jumble-up, crossway, and every other way box, into a movable-frame hive? BRITISH COLUMBIA.

ANSWERS.—1. The British standard frame is 14x8½ inches, outside measure; the Langstroth 17⅜ x 9⅛. The comb surface in 5 British frames is something like that in 4 Langstroth frames, the exact ratio depending on the thickness of the different parts of the frames.

2. The very best way is to wait till the colony swarms, and hive the swarm in a hive whose frames are filled with worker foundation, setting the swarm on the old stand and the old hive close beside it; then a week later move the old hive to the other side, and then 2 weeks later still (3 weeks after hiving the swarm) to cut up the old hive, add its bees to the swarm, and melt up the old combs.

If it be desired to have increase, then leave the old hive on its own stand, set the swarm on the new stand, and 3 weeks later cut up the old hive and brush the bees into a new hive with frames filled with foundation.

The point is that by leaving the combs undisturbed in the old hive for 3 weeks all the worker-brood will be hatched out, so there will be no loss of brood. Of course, if you are anxious to save any of the old combs that are straight enough for that purpose, you can fit them into frames at the time you cut up the old hive.

Disposing of a Laying-Worker Colony—Bait-Sections.

In "Forty Years Among the Bees," you say a colony of laying workers should be broken up and the combs distributed among other colonies, and that the bees are old and of little value.

1. In what way would it be doing any good to give a good colony one of those combs of worthless bees and drone-brood?

2. In another place you say that after the feeder sections have been cleaned out by the bees, the best of them are saved for "baits in the supers the following season.

3. Why are they not all good to use the following season?

Since I began studying your book, 2 years ago, I have been able to keep the bees together and get twice as much honey as I got before. I have 87 colonies of bees. I began in 1899. PENNSYLVANIA.

ANSWERS.—1. While these old bees are of little value, they still have some value, and that value may as well be utilized. We are told that a worker in the busy season lives to be about 6 weeks old. Now suppose we have some bees that are 4 or 5 weeks old. They have yet a week or two to live, and they are good as field-bees for that length of time; so if given to other colonies they will finish up their lives in a useful way, doing more good than if you try to tinker up the colony with a young queen. To be sure, you might give a queen, together with brood, and enough young bees to make a fair colony, but these old bees are exceedingly loth to accept a queen, and you'll be likely to lose her. Better break up the colony, and then start a new one elsewhere.

2. Not until your question has called my attention to it have I ever noticed how misleading is that sentence, "The best of these empties 'feeders' furnish 'baits' for the following season." I don't wonder at your asking the question, for it sounds as if only a few were good enough for baits. The fact is that nearly all are so used, only those being rejected that are objectionable for any reason, such as being built crooked or being darkened. But those rejected are very few.

It does me much good to know that you find "Forty Years Among the Bees" so useful.

Supers and Sections—Queen-Rearing Book.

1. Do you consider the Ferguson super advertised in a Western catalog worth introducing on a large scale?

2. Is the 4x5 section, in your opinion, bound to stay? Would you change from a 4¼ outfit to the 4x5?

3. Do you prefer bee-way sections to plain, and why?

4. A few days ago I broke up a queenless colony in a box-hive. The combs contain very little honey, but much pollen. Will it pay to fasten them into regular frames to be used in spring in place of empty combs?

5. What book do you recommend on queen-rearing? NEW YORK.

ANSWERS.—1. I don't know, as I don't think I ever saw the said super, and do not now recall that I have seen a description of it.

2. Hard to say; although with some it is likely to stay. I have tried some other sizes than 4¼, and tried them on a pretty large scale, only to come back to the 4¼.

3. I prefer bee-ways because they are more easily handled without danger of thrusting the fingers in them. Although I might never jam my fingers into a plain section, the danger comes when the retail grocer handles them. But even while in the bee-keeper's hands, they must be handled with more care, which means more time. A plain section tumbles over more easily than a bee-way section. A plainer, cheaper separator goes with the bee-way. On the other hand, it takes a smaller case for plain than for bee-way sections, although it's easier to lift the bee-ways out of the case.

4. It will probably pay, and will pay big, if there is a scarcity of pollen.

5. Doolittle and Alley are both good, but if I may be pardoned for such immodesty, I may say that for the mere honey-producer there may be nothing better than "Forty Years Among the Bees."

Position of Frames in Spring.

Please explain to me how I should place my frames in the spring to obtain best results. I use the alternating 16-frame hive, and *do not* extract. Commencing at the upper right hand I number the frames "1" to "16." In the spring I find No. 1 and No. 8 solid with honey; 2 and 7 honey and brood; 3, 4, 5 and 6, brood; 9 and 16, old honey; 10 and 15, pollen. The rest of the frames are generally empty combs. This is not the exact condition, but nearly so. Should I alternate and place an empty super under all? NEBRASKA.

ANSWER.—If I understand correctly, you have a 3-story hive, each story containing 8 frames equivalent to 9 Langstroth frames, these frames being numbered 1 to 8 in the upper story, and 9 to 12 in the lower story, and your question is whether you shall make these 2 stories alternate, or exchange places, and put an empty section-super under all. In any case the section-super should not be placed under, but above. To alternate the stories and leave both during the harvest would hardly result in best super-work unless with an exceedingly strong colony, for it would be equivalent to leaving the colony 18 Langstroth frames. Only one story should be left for the harvest. The best results will be obtained by leaving in that story the best frames of brood from each story, *provided* you have no fear of the colony swarming or wish it to swarm. If you do not want it to swarm, then leave the 8 frames containing the least brood, which will be somewhat in the nature of shaking a swarm.

Advantages of Association Membership—Fastening Comb Foundation, Etc.

1. What object is it to belong to a bee-keepers' association? What is there in it for the man who pays his dollar?

2. Is there an association in Minnesota?

3. How do you fasten foundation in shallow extracting frames so that the bees won't tear it down?

4. I had a colony of bees that would not work in sections nor in extracting combs dropping with honey. What was the trouble?

5. Where can I obtain queens and not get a disease among my bees?

6. I put 20 colonies in the cellar a year ago and took out 11 colonies in the spring. From those 11 colonies I secured 200 pounds of comb honey and 800 pounds of extracted honey. Did I do well? MINNESOTA.

ANSWERS.—1. One of the advantages—and it is a great advantage—is the meeting of other bee-keepers to talk over matters connected with bee-keeping. Perhaps you have learned some new thing of advantage, and it is a pleasure to give it to others. Others may have learned something that will be of advantage to you to learn. To be sure, we are all the time getting these things from bee-papers, but there are some very good bee-keepers who can be induced to talk at a convention who do not write for publication. If there is any point upon which you have had trouble, it is an advantage to be able to ask about it, and to hear it discussed by those present. Bee-keepers are a sociable lot, and it is a pleasure to meet so many in one place and shake hands with them. Many of the smaller societies have arrangements by which membership in them secures membership in the National Association without additional payment. It would be a long story to tell all that the National has done. It has helped a goodly number who were threatened with trouble by unkind neighbors. Quite a number of them would have been obliged to move their bees, or else to go out of business. The National and the State Associations have had their influence in securing proper legislation, and perhaps to some extent in advancing prices of honey.

2. I am not sure. If there is no local association convenient, you can become a member of the National by sending $1.00 to General Manager N. E. France, Platteville, Wis.

3. If top-bars are made with saw-kerf and wedge, it may be sufficient to insert the edge of the foundation in the groove and crowd in the wedge. If top-bars are not thus made, the foundation may be fastened to top-bar by running melted wax along the joint. Additional

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security may be had by the use of wiring or foundation-splints, and for any depth greater than 4 or 5 inches it will be better to have this additional security.

4. I don't know. Possibly there was room enough in the brood-chamber in proportion to the strength of the colony, so that they didn't need to use any room above.

5. You ought not to get disease by getting queens anywhere, for an honest man who has foul brood ought not to send out queens. It is generally understood that a queen alone can not convey the disease, so if you are at all in doubt, when you get a queen, put her in a new cage, and burn up the old cage, candy, bees, and all.

6. Wintering over 11 colonies out of 20 was not doing very well. Getting an average of 90 pounds per colony was doing well. Just how well depends upon what others did in the same locality; in other words, it depends upon what kind of a year it was. If only an average year, it was doing very well.

Transferring Bees—Requeening—Peach-Belt Location for Bees.

1. I am just starting in bee-culture, and want a little advice. I bought 6 colonies in box or native made hives, and want to transfer them to proper hives with supers. How shall I do it?

2. In the spring I want to give them Italian queens and destroy the queens already in the hives. How shall I do it?

3. We are in the great peach-belt, having within a radius of 4 miles 900,000 bearing peach-trees. It seems to me to be an ideal place for bee-culture. What do you think of it? MISSOURI.

ANSWERS.—1. Pardon me if I begin by giving some advice not asked for. I most strongly advise you to buy a book of instruction on bee-keeping that will, I am sure, pay more than 100 percent on the investment. Indeed, that is putting it altogether too mildly, for before the next season is over the probability is that by a study of such a book you will save its price several times over by avoiding mistakes you would otherwise make. Answering your question, however:

1. You will, perhaps, do best to let the bees stay in the old hives till after they swarm, hiving the swarms in movable-frame hives. Then 3 weeks after that you can cut up the old hive, and there will be no loss of brood, for at that time all the brood will have hatched out, unless it be a few drones. If you desire no increase, you can brush all the bees off the combs, after cutting up the hive, and melt them up for wax. But as before intimated, you will do this, as well as anything else with bees, in a more satisfactory manner after giving the whole subject some study with the aid of a text-book. If anything in that is not clearly understood, this department is exactly the place to ask questions about it.

2. It would be rather difficult to do anything in the way of changing queens while the bees are in box-hives. After they are in movable-frame hives you can find out each time the old queen, and put the new queen (caged) in the hive. The cage in which the new queen is received will have printed instructions for introducing sent with it. Some prefer to put the caged queen in the hive before taking away the old one, leaving both queens in the hive together for a few days.

3. Such a big lot of peach-trees must be a fine thing for the bees, but you mustn't count on it as an ideal place unless you have something else to depend upon. The peach blooms early, and is of great value to help colonies to build up, but I suppose it is something like the apple in this locality where we are too far north to have peaches. The bees revel on the apple-bloom, but it comes so early that bees are yet too few to gather very abundantly, and what they get from apple is pretty much all used in rearing brood. If you could have the blooming of the peach continue longer, so as to have 4 or 6 weeks from the beginning of the earliest to the close of the latest, it would be a different thing, but I don't suppose peach-bloom lasts so long.

Afterswarms—Changing from Heddon to Langstroth Frames.

About 2 years or more ago I purchased your book entitled, "Forty Years Among the Bees." I find it very instructive and often refer to it.

I am an old veteran of the Civil War. My son and I are engaged in farming, bee-keeping, fruit-growing, and poultry-raising. I have kept bees with varying success for 45 years on a small scale, as a side-line to farming, etc. I use the Langstroth and Heddon hives. I have 12 good colonies of bees, mostly Italians. I like the Langstroth hive the best, as it is more convenient to get at the queen-cells to cut them all out except after they have cast their first swarm, as I find that unless I lift out every frame of the divisible Heddon hive for that purpose, I do not find all the queen-cells in every instance. Consequently I am often bothered with afterswarms.

I have 10 Heddon hives in which I wish to substitute the Hoffman frame for the two sets of shallow frames, as I find that this hive will take 8 of them, allowing room for a thin dummy or follower, but there is about 2 inches space between the bottom of the frames and bottom-board. What would you advise me to do with that? The bee-space between the ends of the frames and hive is just wide enough for a bee to squeeze through. I would dislike to throw these hives away, as they are sound and well painted. I have about half a crop of comb honey this season. I wish I had run them for extracted honey, as I would have got about twice as much as I did. I get 15 cents per pound for my comb honey.

My bees had a good flight about a week ago. Yesterday I put 3 colonies in my house cellar, which is dry. They are very uneasy now (Dec. 4). I have chaff cushions and Hill's device on top of the hives. I think they will quiet down as the weather grows colder, as I have the cellar well ventilated and darkened. The bees are up 2½ feet from the cellar bottom. Two are in Langstroth and one in a Heddon hive. The rest are in chaff hives outdoors. MICHIGAN.

ANSWER.—I anticipate that the greatest trouble in the case will be the small space between the entire hive and the ends of hive. You say a bee can just squeeze through, and if there is any real squeezing in the case the bees are likely to fill the space with glue, although it is not so bad in that part of the hive as in other places. There are two ways you can proceed with reference to that 2-inch space at the bottom.

First, you can saw off enough at the bottom to make the depth suit you.

Second, you can leave the sides and back just as they are, and saw out 2 inches or so from the bottom at the front.

If you take the second way, you can not use the hive for a second story, but it will work all right for a lower story. If you want to tier up you will have to take the first plan, or at least you must take the first plan for any that are to be used as upper stories. If you take the second plan you will have something like a 2-inch space under your bottom-bars, and that's just what I have, only with mine the 2-inch space is the bottom-board. That deep space is a splendid thing in winter, but of course if it is left during the harvest the bees will build down into it; so you must have it filled in some way during the time there is any danger of building. One way is simply to slip under a board that is 2 or 3 inches narrower than the inside width of the hive, and 3 inches shorter than the inside length, tacking 2 little sticks on the under side if needed to raise it within ½ or ¾ inch of the bottom-bars. Even an inch space is not likely to make any trouble. A better way is to use a sort of rack instead of the board. Take 3 sticks, each perhaps 2½ inches shorter than the inside width of the hive, one for each end of your rack and one for the middle. They may be ¾ to ½ inch in thickness, and ½ to 1 inch wide. Upon these nail thin strips about ¾ inch wide, with a space of ¼ to ⅜ inch between each 2 strips. Turn the thing over, and nail the same kind of strips on the under side, only let them break joint with the strips on the other side. Wooden separators will do for these strips. On the under side you will nail 2 sticks running lengthwise that shall be thick enough to leave a space of ¾ to 1 inch between the rack and the bottom-bars. This will give you the advantage of fine chance for ventilation during harvest, and at the same time will not allow the bees to build down. I have been using a number of these ventilation-racks, and like them very much.

Age of Larvae for Queen-Rearing.

I notice on page 757, you use the following language: "You will be told by some good bee keepers, and intelligent, that bees will be in such a hurry to rear a young queen that they will select larvæ too old for best success." Then a few lines further on you say, "I do not at all believe they [those bee-keepers] are correct."

I am in no sense a queen-breeder whose opinion is entitled to any great respect, but I rear my own queens, and in that connection I wish to give you the result of the only experiment I ever made along that line. Last summer, in transferring larvæ from the comb to the cell-cups, I purposely selected one that I thought was too old. I put the frame containing about 20 cell-cups with larvæ into a colony that had been queenless over a week.

I did not mark the cup into which I placed the old larva, because I did not for a moment believe it would be accepted. A large proportion of the cells were accepted and among them the one containing the old larva. I introduced the ripe cells and a few days after I looked through the colonies to see if the queens were laying. They were all doing well but one.

This was a very odd-looking bee. She was plainly not a worker, yet she did not look like the other queens. Her abdomen was short, but at the same time somewhat elongated. The bee, I should judge, was fully 30 percent larger than the workers. There was no mistake about her being the queen I had introduced in the cell, because she was reared from a Banat mother, while my stock were hybrids of a very dusky hue. Evidently this queen had not mated, as during the four weeks I kept her, there was not an egg in the hive. On picking up the supposed queen, she tried to use her sting. She never failed to fight as wickedly as a worker except she made no attempt to fly.

Now, I assumed that that queen was the product of the old larva I had selected. I have regretted ever since that I did not mark the cell base; then I could have traced her. I do not believe the nurse-bees neglected to feed one larva as well as they did the others, for the other queens were as fine, large and vigorous as any I ever saw. I call them my "camelback" queens, because their ovaries are so well developed that the abdomen carries a hump. I think the most reasonable conclusion is that the bees fed all of the larvæ alike, and that the only way to account for the freak is from the fact that the larva from which she was grown was a little too old.

Bees may not select a larva that is too old, but I believe they sometimes accept one that is. And where as many as 20 are provided, it looks to me as if it practically amounts to selecting it, if they accept one that is too old. KANSAS.

ANSWER.—My good friend, there is no controversy whatever between us except as to what is contained in your last sentence. In the sentence preceding it you say you believe bees sometimes accept a larva that is too old. Not only do I believe they sometimes do, but that they frequently do so, and they can interferes. Unqueen a colony, and the bees will select a larva of proper age from which to rear a queen. Not only one, but they will select several, as they seem to provide against emergencies, and this same spirit makes them start other cells later on, when no larva sufficiently young is present, and they are forced to accept those too old. No harm will come from this if the bees are left entirely to themselves, as these too-old larvæ will hatch later than the better ones, and be destroyed by them. But harm will result if the bee-keeper should take any of these objectionable cells and use them.

But when you say, "And where as many as 20 are provided, it looks to me as if it practically amounts to selecting it if they accept one that is too old," you will pardon me for saying that it doesn't look that way to me. For a larva put into a queen-cell cup, whether the cup be natural or artificial, is a very different thing from the larva in its original worker-cell. This is very plainly shown by the fact that a much larger percent of larvæ in such cups are accepted, as comoared with those in worker-cells. Provide 20 cells with larvæ, and you are having poor success if 50 percent of them are not accepted, while not one in a thousand of the larvæ in worker-cells will be chosen for royalty. Very likely you will say, "But of those 20 cells, a number were rejected that had larvæ very young, while one with a too-old larva was accepted." Quite true, but the age of the larva had nothing to do with that. Bees are fastidious little creatures, and although you may think you have treated all cells exactly alike, they take exception to something in a cell that to you seems all right, and will have nothing to do with it, no matter how young the larva.

All the same, thanks are due for the interesting story of the case reported.

Number of Colonies for the Field—Value of Box-Hive Colonies—Transferring, Etc.

1. I have 6 colonies of bees on the Ohio river. The principal honey-flow there comes late in the season from weeds that grow along the river and in the cornfields along the river bottoms. The strip of bottom-land given over almost entirely to corn-raising is about 2 miles wide. Last season my 6 colonies gave me 428 pounds of honey. How many colonies could you have there and secure as good an average (71 lbs.) as this?

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2. There are two bee-keepers within about 8 miles of my place who have several colonies in box-hives which they want to sell. What would be a fair price for me to pay per colony for them?

3. In transferring would it be all right to let each colony swarm once, remove the old hive from the old stand and let it go until the honey-flow starts, then place it beside the new hive on the old stand with a bee-escape on its entrance, and thus run the bees from the old hive into the new one?

4. My apiary will be on the south side of a large hill. I expect to run for comb honey. If the colonies are left without shade would the crop of honey be likely to be shorter than it would be if shade were provided?

5. The queen in one colony this season slacked up on egg-laying in July. Previous to this she did very well, having filled 14 Danzenbaker frames in 21 days. About the first of August she commenced laying again as before. There was some honey in both brood-chamber and super. Why did she slow up on egg-laying? If a detriment can such conduct be prevented?

DISTRICT OF COLUMBIA.

ANSWERS.—1. That's a very hard question. Let us suppose that the principal honey-plant in the case is heartsease—a very supposable thing. It will especially flourish in a wet season, although it may do more or less every year. The principal matter of uncertainty in the case, however, is the amount of it. It may be so little in amount that those 6 colonies were able to take care of all the blossoms in reach, and if you had had 7 colonies your surplus would have been reduced. That, however, is not likely to be the case, and as guessing is the only thing that can be done, my guess is that 50 colonies will give you more surplus than a smaller number, and possibly 75 to 100.

2. That's one of the things that depends upon "locality," and you can find out only by inquiring what prices have been customary. Possibly it may be only $2 or $3 per colony; possibly $5.

3. Yes, with some modification. When the colony swarms, put the swarm in its new hive on the old stand, and put the old hive close beside it. A week later, move the old hive to the other side of the new one. Two weeks later still (3 weeks after hiving the swarm), cut up the old hive and brush all the bees into the hive with the swarm. Then you can melt up the combs, although it may be well first to set the combs off some 3 or more rods until the bees have robbed out all the honey.

4. The matter of shade will probably have very little effect on the crop.

5. There may be more than one answer to the question. You say she filled 14 frames in 21 days. Now suppose that in the first part of that 21 days she began laying lightly, gradually increasing throughout the whole time, at the end of that time having the frames entirely filled with either brood or honey. Don't you see that she could find vacant cells in which to lay, only as cells were emptied by the emerging of young bees proceeding from eggs laid 3 weeks before? So you see that she would be obliged to slow up so as to lay no faster than she did at the beginning of the 3 weeks. It may also be that a heavy flow of honey may have made the difference, for it often happens that when a heavy flow occurs the bees seem to turn their attention almost entirely to storing, to the neglect of brood-rearing. A remedy is hardly needed.

Requeening—Reading Bee Literature.

I see through the columns of the American Bee Journal that a great number of bee-keepers practise requeening every few years. I just wish to say that if all had had the same experience that I have had, there would be but little requeening done, as I have tried several times to introduce new queens, but have never yet been successful in it, and I have tried to follow very closely the instructions. I think that everyone who keeps bees should read the American Bee Journal or some other bee-paper, for it comes in so handy. I consider it worth more than any other paper that costs twice as much, for when you are at your wits' end, then pick up the American Bee Journal and your trouble is over, for you can always find just what you want in the columns of it. I have some bee-books, such as "A B C of Bee-Culture," but I find the American Bee Journal the best of them all, for it is up-to-date. I feel that I can not say too much for it.

H. W. GAMBLE.

Golden City, Mo., Dec. 19.

Good Results from Nuclei.

I had 14 colonies in the spring, but was comoelled to double them up to save them. I made 8 good ones the last of April, and the latter part of May I placed them back in the same number (14), and requeened. I have 3 colonies in 24-frame hives; that is, 3 bodies of 8 frames each. Each was started on 3 frames of brood and bees and empty combs in June, and each turned out about 50 sections of honey. They are very strong, having fully 60 pounds or more of honey for winter. I call them my 3 warm numbers, and shall take some queens from them in the spring. I have 2 colonies of Caucasians, but shall keep only one hereafter.

C. B. PALMER.

Bradshaw, Nebr., Dec. 16.

Poor Season for Bees.

We had a very cold, wet summer, and the bees did little or no good until the buckwheat time. I turned my attention to rearing bees, and now have 18 colonies all in fine shape, with plenty of stores. I am hoping to be able to report a good crop of honey next season. I have one out-apiary of 4 colonies, and expect to start 2 more in the spring. We have street-cars running out 6 to 10 miles into the country, thus giving me a chance to attend to out-colonies.

H. S. BUCHANAN.

Indiana, Pa., Dec. 16.

Why Bees Don't Do Well.

The bees were in good shape here when the honey season closed, September 15, but the weather still continues warm and the bees are flying out almost every day. Lots of them are still rearing brood, caused from the fact that they have continued to gather pollen up to the present time. They are using up lots of stores; are getting lighter every day, and with those who never feed nor care for their bees, if this weather continues there will be a great loss next spring, and those colonies that do pull through will be so weak that they will hardly do anything all summer. And there will be lots of bee-keepers who will wonder why their bees did not do as well as some other people's bees!

J. W. FERGUSON.

Pierce City, Mo., Dec. 2, 1907.

Queer Things Bees Do.

Speaking of the freakish things that bees do, if we would watch them very closely, we would find out that bees do things that would astonish us. During the past season I had one colony of bees that were infected with moth—so bad a case that I had to give them a new hive, and new outfit, honey and all. I took frames from extracting supers that were heavy with honey, and fitted them up very snugly. It is natural for bees to want to rob when anything of this kind occurs, and they did come around thick and fast, so much so that I had to contract the entrance so it was possible for only one bee to pass at a time. I had nothing to do but to watch them. I found that once in a while a robber-bee would creep in, and if it managed to get its load, it was held up at the entrance by 2 bees, while one bee made it give up the honey. They pumped it out of the robber-bee, then let it go.

Now I expect there is more than one bee-keeper who will criticize this statement, but it is just what we would do under similar circumstances if we had the help. There are a great many queer things that bees do.

Dawson, Ill., Dec. 20. S. T. CRIM.

Sowing Alsike for Honey.

The farmers are sowing alsike clover, which does very well here and the bees work well on it. It makes our best honey. My bees are all in good shape, and if the prospects hold out, we will have a good crop next year.

D. A. FINKENBINDER.

Stockton, Ill., Dec. 23.

A Very Short Honey Crop.

My bees came out all right last spring. I lost one colony the latter part of August. I had 11 swarms, which built up very slowly, but finally gathered stores to take them through the winter. There appeared to be abundance of white clover, but the bees did not work it very strong. They barely got a living till black-heart bloomed, and that did not yield much till late. The Illinois River being out of its banks almost the entire summer, the wild cucumbers had no show at all, and the Spanish-needles were but few, so my boney crop was about 1-5 of what it was last year. Some bee-keepers got only about 1-10 of last year's yield.

GEO. B. SLACK.

Mapleton, Ill., Dec. 20.

Half a Crop—Two Queens in One Hive.

The crop here in Missouri was not one-half a crop. I fed over 700 pounds of sugar to my bees for winter stores, extracting everything above the brood.

I found 2 queens in several hives this fall—mother and daughter. Some were above excluders and some together. Both always laying, but when left together after the flow one always disappeared. I have saved some to test next year.

IRVING LONG.

Marceline, Mo., Dec. 18.

Late Mating of Queens.

In the fall of 1906 I put my 4-year-old queen in the cellar. March 20, I put the bees out, and I was anxious to see if she were alive. On opening the hive I found a young queen just emerging from its cell. I caught her and put her in a spiral cage. Then I sent for a laying queen, and waited for 30 days, but no queen came. So I released the virgin queen in time. She was mated, and was as prolific a queen as ever was in a hive. In time she cast an extra large swarm.

Now this does away with some of the theories that have been advanced. I had 2 in the spring of 1906, but they were no good. It was about 6 weeks before the queens were mated.

DeKalb, Ill., Dec. 18. WM. MARSHALL.

A Queer Season.

We have had one of the queerest seasons I have seen since I began keeping bees. The bees came out fine in the spring and gathered quite freely from fruit-bloom, and later on the country was pure white with clover, but not a bee visited it. There was lots of other bloom—more than I ever saw before—but not a drop of nectar in it. We had more days of good weather than usual in this locality, but in spite of this no honey worth speaking of was gathered.

O. K. RICE.

Grays River, Wash., Dec. 20. 2

Pays to Feed Bees for Winter.

I bought 8 colonies of bees last winter, and secured 24 pounds of section boney to the colony during the season. I took only one super from each colony. We had a very bad drouth last summer, and bees did not do very well. I have 5 colonies that did not swarm during the whole summer; and 2 colonies that swarmed 3 times each. The ones that did not swarm are in better condition than those that did swarm. They refilled their super. The last swarms that came off did not make much of anything, but I gave them empty combs and fed them syrup in September and October, and I think they will get through the winter. I may have to feed them in the early spring. I did last spring in April. One of my neighbors lost several colonies in April last year by not feeding. They worked in March, and he thought they were all right, but it stayed cold through April and part of May, and they starved.

JOHN DETHEROW.

Springfield, Mo., Dec. 16.

Fine Crop of Fall Honey.

We failed to get a spring honey-flow in 1907. July 1 there was not an ounce of honey coming in—bees out of business. July 7 some honey was coming in, but not one section of honey, so the bees and myself went out of business at that time; but in the fall we renewed business and secured a fine crop of fall honey. If not a large crop, it was fine honey, most of which I have sold at 15 cents per section.

The bees are in excellent condition for winter. I have wintered my bees in the cellar the past 3 years, and have not lost one colony yet. I have a dirt floor and let them stand out until it gets very cold, then I carry them into the cellar.

F. MCBAIDE.

McGuffy, Ohio, Dec. 16.

Wintering Bees in Out-Yards.

I put 183 colonies of bees into the cellar Monday, Dec. 2, and all indicate chances of wintering. Mr. Thomas W. Chantry spent 3 days with me last week, and we fixed up 2 colonies of bees for experiment, as follows:

We made the entrance-board even with the front of the hive so that snow can not clog the same, and contracted it to about 4 x ⅜ inches. Three or four thicknesses of news-

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papers were put over the cover and down the sides, folded and tied; over this a piece of carpet; and over all tar-paper, and we folded down the sides and ends, and fastened it on with pieces of lath. We left honey enough to last until fruit-bloom. The covers are not to be touched until then. The object sought is to see if hees in an out-yard can not be fixed up early in the fall after the surplus honey has been removed, and not seen again until late spring, except perhaps to remove such colonies as have died during the winter. On these 2 I place a shallow-frame super of extracting combs of honey, to insure enough and to spare of feed, and a place to store any honey that might need to be removed from the brood-chamber to make room for brood in late spring.

If bees can be wintered well and safe in this way, out-yards can be run if need be, several hundred miles from home, with but little or no attention from September to May, or probably till June. F. W. Hall.

Hull, Iowa, October 4.

More in Regard to Bee-Scouts.

In the spring of 1907 I nailed a box inside the hen-house, with a bit-hole for an entrance, to feed a weak colony a few feet away. June 4, about noon, I discovered several hundred bees at work in the box. There had been no feed there for 3 weeks. I could not account for the sudden appearance of bees. They made a peculiar, snappy noise inside the box, like dropping tacks on parchment. There were about 100 bees hovering one foot from the entrance. In about 10 minutes I looked outside and every bee was gone, and, while I was trying to solve the mystery, I heard a swarm in the air. They passed directly over me, hovered a while in the air, and then a bunch of 200 or 300 all at once settled right down before the entrance of this box, and the mystery was solved. In 10 minutes there was a cluster under the eaves about 4 feet from the bit-hole, as big as a peck measure. Then they began to "streak it" on foot for the entrance. They were in this box 36 hours before they were taken out and hived. They had built 4 combs 6 to 8 inches wide, and every cell of suitable depth had an egg properly placed. M. E. Shattuck.

Some Bee-Keeping Fads.

After an experience of 25 years with keeping from 20 to 50 colonies, I am not a novice, yet must confess that when I meet with experts and producers of honey who calculate tons and car-loads, running autos from yard to yard, using 6-comb extractors with gasoline power, the ordinary bee-keeper cuts no figure, and may be counted among the "has-beens."

Being one of the conservative Dutch referred to by Prof. Surface at the Harrisburg meeting, I am slow to adopt new ideas, yet the temptation seems irresistible sometimes, not to try some of the advanced cult. I have paid several dollars to try the dual-queen system with excluders between, to learn that the hees are not educated, possessing too much of their natural instinct, to tolerate 2 queens in a colony. Just how they disposed of the ones in the second story is unknown, but that they were missing shortly after being introduced, is a fact. While I had instances when 2 queens were together in the brood-chamber for a little while, it is a matter of rare occurrence.

As for offering warm water to the hees, when the weather is cool, or at any time, seems absurd, as the water would soon cool to the temperature of the air, in which event they could get it from other sources, unless it were in a rainless district where they could not find any wells to enter. Having a small stream of pure water close to the yard, with sand and gravel deposits, where the seepage provides a constant supply, they can get what they need at all times when the weather is warm enough for them to seek it.

A few years ago it was advocated to water cattle with warm water. We hear nothing more about it; so it will be with bees, is my opinion.

The bees are kept on the farm for pleasure and profit, as it is difficult to get entirely rid of "beephohia" when once affected, and the gain from honey-sales and increased berry and fruit crops is compensating. This section does not afford any very great rush season, hut a steady supply ending with golden-rod and asters late in September, so we get considerable dark honey, besides that from buckwheat, of superior flavor, something that tastes good on griddle-cakes.

Now I have a chance (which is submitted to you confidentially) to make more out of the bees, although it seems cruel to sacrifice them to cure rheumatism. Having a good location, ample room, and bees warranted to sting equal to any, the plan is to establish a "Sanitarium for Rheumatics." Besides the ordinary honey-bees, we have also a variety of bumble hees, yellow jackets, and hornets, that might be cultivated, and it would seem less cruel to use these, since they would not suffer any from continued use, while the honey-bee would perish with one application.

Perhaps others in the business might wish to engage in this enterprise, and it might be well to form some sort of association, corporation, combination, or trust, and fix a price for one injection—say 10 or 25 cents, according to the strain; those from hundred-dollar queens being necessarily more valuable. From earlier experiences I should think the hornets most effective. W. H. Stout.

Pine Grove, Pa., Dec. 17.

Very Poor Season.

My report for the season of 1907 looks bad. Spring dwindling affected the bees badly. Our location is very high and windy. Bees would warm up and start out for nectar, get chilled, and perish. My finest Italians fared the worst. I am a farmer bee-keeper, but use modern hives, winter in a good cellar, and feed and protect my bees.

In the fall of 1906 I put 40 colonies into the cellar, and in the spring of 1907 I took out 38. I lost 20 by spring dwindling. I had no swarms up to July 1, 1907, and only one issued afterward. I fed the bees with good sugar syrup right along in top-feeders.

I use standard Hoffman frames and dovetailed hives. My extracting frames are the same size as the brood-frames.

Westfield, Wis., Dec. 21. W. D. Barnes.

No Snow Yet—Moth-Worms.

I had 30 colonies spring count. Three were poor. Moth-worms got in before I discovered them. I did not get them built up in time for the clover harvest, which is all we have here. This is my third year in the bee-business.

We have had no snow yet. The ground is very dry. It is hard to tell what the outlook will he for clover. L. F. Church.

Clear Lake, Wis., Dec. 22.

Feeding Sugar Candy in the Cellar.

I will give you my plan of feeding sugar candy to my hees, which are always in the cellar, when it is necessary.

I take a ⅜-inch board and cut it the same size as a brood-frame. To make the projection to rest on the hive rabbets, either nail a narrow strip the length of a top-bar, or leave the ends projecting in the cutting-board. Then I take ½-inch, or ⅜-inch lumber and cut into strips about ¾-inch wide, of the same length as the ⅜-inch blank board. Bevel the edges of the strips and nail the narrow edges to the blank board just ⅜-inch apart at the top side. This makes a grooved frame, and I pour into these grooves the hot sugar-candy I have made. By removing an empty brood-frame from the hive and dividing the cluster, I put my sugar-frame in the center of the cluster while yet warm to the hand. The bees will quickly cover the warm frame, and do not seem to mind the disturbance.

I have used this method with good success, but I don't know if it is worth much to any one else, and can not say anything about its being of any use in out-door wintering of bees.

B. W. Dennis.

Lake Preston, S. Dak., Dec. 30.

Few Bees Left in County.

In this county out of one apiary of 60 colonies, only 5 are left; out of one of 13 colonies, 2 are left; out of one of 4, none are left, and I do not think that 20 per cent of all the bees in the county are left. This is due mostly to the cold summer and fall. A great many colonies will go yet, as brood-rearing stopped in August and nothing but old hees are left in those apiaries where no feeding has been done. I fed mine and have a lot of young bees.

Cologne, Minn., Nov. 29. H. Luedloff.

Poorest Season in His Experience.

The following is the report of some of my neighbors:

Mr. Cook had 27 good colonies in the spring and secured between 300 and 400 pounds of honey which he sold for 14 cents per pound.

Mr. Moorer, 4 miles from here, had 40 colonies spring count, and did not secure 100 pounds of good, salable honey.

Mr. Hover had 9 colonies in the fall of 1906; had 3 in 1907. Secured no honey.

Honey in general was a failure. I fed my bees last March and April, and they were in good working condition when the season opened, but it was the poorest season I have experienced in 33 years. The persons above mentioned have never taken a bee-paper or read a bee-book. I have repeatedly tried to get them to do so, but without success.

There are quite a few small bee-keepers around here, but I think most of them will be out of business in the spring.

I always sell my honey in Grand Rapids before the holidays to jobbers. I use 1½-inch sections. I have my regular customers and always try to give them a good, well-ripened and nice-looking honey, with every section stamped so that the customer knows where and whom it is from.

Caledonia, Mich. Moses Bechtel.

Bees Did Fairly Well.

The honey-yield in this locality was fair, considering the backward spring. I began in the spring with one colony. The first of June I bought 5 more. All were weak with bees and out of stores. The moths were in one of these, and in that one the combs were tied together so that I couldn't see after them.

From 3 colonies I took about 100 pounds of honey. One of the others had a queen of no account, so replaced her with one that I sent away for, and I think all are in good condition for winter. W. H. McDaniel.

Deport, Tex., Dec. 21.

Bees Neglected, but Fixed Up.

I put some bees in the cellar Dec. 13, and packed 20 outside. They are all in fine shape but 7, which are light. Some were nuclei that we started but failed to give proper attention, but we are in hopes to pull them through, for there are some choice queens among them. The bees were in good shape the last of March, when I left them, but shortly after, my family were taken down with smallpox, and they had a time of it, with a hundred ewes and over 50 head of cattle and horses, and so something had to suffer. I came home June 21st, and found the bees in bad shape, and a crosser bunch I never was in. Some of the entrance-guards were out, and robbing was going on in general, but I soon had them straightened out, with 15 less colonies, and several very weak. But the balance were in grand shape. C. A. Fairbanks.

Anamosa, Iowa, Dec. 17.

Poorest Season in 37 Years.

The honey crop of 1907 was the poorest in my 37 years of keeping bees, as from about 65 colonies of bees I could take only about 200 pounds of extracted honey from some top stores, while most of the bees go into winter with a rather scant supply of honey. For those who keep a goodly number of hees, it will be well to follow our good teacher—Mr. Dadant's way of having out-apiaries in different locations, as I find that if one location is poor in one season, some other location may be fairly good. The cause of our crop resulted from the 6 weeks' winter when we should have spring, consequently the bees could not breed up in time for the white clover bloom, which was rather poor, too. M. Zahner.

Lenexa, Kans., Dec. 24.

Watering Bees in Winter.

I see so many lose their bees through the winter, and are unable to give the cause. I will say that some 30 years ago, while living in Iowa, where bees were wintered in the cellar, there was always a loss until the bees were given water. After this method was practised, I do not recollect ever losing a colony of bees that went into winter quarters with plenty of stores, but they all came out in good shape. We had the gable cover on our hives and a heavy blanket. There was a hole cut through the covering and a sponge full of water placed over the hole, where the bees all came to the water. This sponge we would wet about every month. I always left the entrance wide open with only a screen over it to prevent the bees from escaping. I would like to hear through the American Bee Journal from those who may try the above, and to know the results. California.

Parcels Post and Bee-Keepers.

I note an article in the December American Bee Journal regarding the parcels post. It is certainly not a fair law, when one can send a package to almost any part of Europe for 12 cents per pound, while to send the same package to New York it will cost 16 cents per pound.

The Post-Master General, desirous of correcting this injustice, recommends a change in the law; but as the passage of such law

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might somewhat curtail the profits of the express companies, it, of course, will be strongly opposed. Also country merchants think they see a bugbear in the mail-order houses, and have organized to fight the bill.

Now the mail-order houses have come to stay, unless they are met by better methods than fighting the parcels-post bill.

The parcels post will cut small figure in the mail-order business, for the reason that that business will always be mainly by freight, as freight-rates will always be very much cheaper than any rate can be made by mail.

You say, "The Post-Master-General has the best wishes of the people." Has he? If he has, let them strengthen his hands by writing to their Senators and Representatives, asking for the passage of the Parcels Post Bill. Whenever the members of Congress are satisfied that the people want the law, they will get it. A Congressman told me he was opposed to the bill. I asked him why. He replied that he had many letters from country merchants and commercial travelers objecting to the bill, and hardly any in its favor. The fact is that the many needing and wanting the bill are the farmer and the artisan who do not take so active a part in the business of the country—not so active as they should.

Now, if you want the parcels post, let your wants be known. Write your Senators and Representatives *at once*, and if this session of Congress does not pass the bill, keep it up in the next session, and we will get it.

Clayton, Ill., Dec. 25. S. N. Black.

Nucleus Method of Making Increase.

I will let some experimenting bee-keepers know how I make swarms in the spring. I go to the strongest colonies, and take 3 frames of brood and eggs, and hang them in a new hive, and hang 2 frames of honey, one on each side of the 3 frames of brood, and let them hatch their own queen. I hang 3 frames of combs in the parent hive again, and about 10 days afterward I take 2 of those frames out again and give them to the nucleus. I have had great success in that way of making swarms. I made 3 of those swarms about the last part of May, and they are all 3 good, strong colonies, with plenty of honey for winter; and of the parent colonies, one swarmed and 2 didn't. The 2 that didn't filled 72 sections of comb honey each.

LaMotte, Iowa, Dec. 23. Nick Jentgen.

Clovers for Honey and Hay.

This has been one of the poorest years for honey in the history of bee-keeping in this vicinity. We had no honey to speak of. The bees went into winter quarters in fairly good shape. The winter so far has been very mild and dry, and could not have been better for out-door wintering. Most of my bees are just on the stands as they were in the summer.

Alsike and sweet clover seem to be the best of anything we have for bees. Of course, white clover is good, but not better than alsike, and perhaps not nearly so good, in this place at least, and then the alsike makes the very best hay of any of the clover family. Mix alsike with timothy and for hay nothing is nearly as good in this locality.

And then sweet clover, that some people call a noxious weed, is a very valuable plant. There is nothing that yields more honey than it does, but as yet it has not been used for hay. However, cattle eat it when green, quite readily, and it would bear cutting two or three times a year. It is also a great fertilizer, having large, long roots, and the growth is so dense that nothing else can grow where it is. If you want to get rid of it, plow it under when about 6 inches high and plant corn, potatoes, or some other crop on the land, and the job is done. O. P. Miller.

Menlo, Iowa, Dec. 24.

Some Bee-Keeping Experiences.

I began bee-keeping 4 years ago by capturing a "honey queen." That is, I took unto myself a wife. My mother-in-law gave us 3 colonies of bees in old 8-frame Langstroth hives. I did not know much about bee-keeping at that time, although my wife had worked with bees ever since she was large enough to work a bee-smoker.

I transferred the bees into 10-frame dovetailed hives, using the plain 4¼ section. The first season I had one colony that gave me 106 pounds of fancy honey, which I sold. My sales of honey for that year amounted to $18. My sales of honey for every year have given me a good profit on my investment.

In 1907 I had 10 colonies. The spring was cold and bad for bees. I fed some sugar syrup until the clover began to bloom, so I had plenty of "harvest hands" when the harvest was white. I put the first honey on the market that was sold in this vicinity this season. I peddle almost all of my honey, selling it direct to the consumers. I have learned a few things and have had some rather queer experiences in disposing of my honey crop in this way, and I may tell some time about selling honey that way.

I kept no account of the number of pounds of honey that I produced. I kept a record of my sales, which amounted to $91.64, fancy honey selling for 15 cents a pound, and No. 1 for 12½ cents.

I kept my bees from swarming by cutting queen-cells, giving room, ventilation, and shade. I made some mistakes that cost me money, but I will try not to make the same blunders again. I caught and bought 9 swarms. I didn't make any increase, but united the swarms with the weakest colonies. I reared a few queens from my best hees, and requeened the poorest colonies with them. I bought 4 colonies of bees at a public sale this fall for $2.25 per colony, as bees are generally a poor sale, seldom bringing the cost of the hive.

There are no expert bee-keepers in this country. Almost every one keeps a few bees to produce honey for his own use, although this is a fair bee-country, with tons of honey going to waste for want of bees to gather it. There are no extractors used, and the majority of people don't know what extracted honey is; and it would take some energy and push to work up an extracted honey market.

D. B. Kinnison.

David City, Nebr., Dec. 26.

Worked for Increase — Bee-Tree — Plan for Requeening.

In the fall of 1906 I had 4 colonies. In the spring of 1907 I had 3 colonies. I worked mostly for increase, so my honey crop was only about 200 pounds of comb honey. What honey I did sell, I sold at 15 cents per pound. This fall I had 11 colonies. As I did more increasing than was profitable, considering the season, some colonies were light.

As to honey-plants, I would say that, in my opinion, the alsike clover is getting a better hold, I think, in this vicinity. We always have a good flow of white clover honey.

I will relate a little of my experience of the other day. My brother and myself had taken the job of cutting down some trees for some neighbors. When we had one tree cut down, I happened to walk around the top, and heard the buzzing of some bees. On closer observation we found that quite a large colony of bees were in the tree.

I have 3 colonies with pure queens. I would like a simple plan for requeening those others without buying queens.

Walter M. Adema.

Berlin, Mich., Dec. 29.

[Perhaps Dr. Miller will furnish the "simple plan" requested.—Editor.]

Results of the Past Season.

In 1905 I bought a standard-bred queen. In 1906 she did not good, nor did any of my other bees, but I want to tell you what she did under the bad conditions we had here last spring. In January, February, and March, it was fine, warm weather, and the bees were breeding and building up fast, and had lots of brood and were doing fine, when April came with the cold weather and caught the poor bees hovering their young, and you know how game they are. They stuck to their young and died in the act of protecting them. So I lost 30 percent of my bees with the cold spell last April. Hence you see that my bees were in bad shape. Then we had too much wet weather for white clover, so we had no show for any kind of honey crop.

Now the standard queen I had bought, as I said above, outdid all the bee-work I have seen while working with bees for over 20 years.

Last spring was wet and there were no signs of any honey up to June 15, so I could see no signs of any swarms. On the 16th, I said to my wife that I would go to town as there were no bees going to swarm. At 10 o'clock my standard queen came off with a very large swarm and settled in a small cedar tree, and were still hanging on the tree when I came home, too late to hive them.

In hiving them I took out 4 frames of brood and put them in a 10-frame hive with one queen-cell and 6 empty frames with starters. Then I took 2 more frames and put them in a 10-frame hive. Then I took one more frame of brood with a queen-cell and put it in a 10-fram hive. So you see I had taken out 7 frames from my standard queen, leaving 3. I filled the hive with frames with starters, and by the middle of July the hive was full of brood and honey. So I took out the old queen with one frame of brood and put her in a 10-frame hive, putting in also a frame of honey and an empty frame. Now, of course, the bees went to work rearing queens, and when the cells were ripe I had a nice lot of young queens that I made good use of.

Now I want to tell you what those young queens did—that is, the first hatch of them. I know what I am about to state is absolutely true. We will call the 4-frame hive No. 1. That young queen filled her hive chock-full in little or no time, as we had an early fall run of honey and it came in very fast, but a very early frost cut it off suddenly. To my amazement I got 95 pounds of surplus honey from No. 1. No. 2 with the 2 frames filled her hive full and gave me 40 pounds of honey. No. 3 with the one frame of brood filled her hive full, and I had put on a super and they had just commenced to work in the super when the frost came.

Now, you can have no idea what I think of those bees, for in 1901 I had a colony that gave me 251 pounds, and I thought that that was a great thing, but that was nothing to compare with this, as 1901 was a hoomer for honey, and this year was a failure, we may say, for I did not get over 600 pounds of honey, and this is the record of the first lot of queens from the swarm. I will tell about the last lot of queens later. They did well; not one of them mismated, and had more honey in their hives than they can consume this winter. George Sage.

Linton, Ind., Dec. 23.

Handling Bees in the City.

I have been handling bees for the last 25 years. The first start I got was by catching a run-away swarm. I have never had over 10 colonies at one time, because I did not have room for them. I reside in a city which has a population of about 60,000 inhabitants, and I keep my bees in a small yard in the rear of my house. I have never had one word of complaint from my neighbors about them and I'll tell you that sometimes they make things pretty lively around this small yard. You can imagine that they must do some flying when one black colony stored about 170 pounds of comb honey. Don't let me hear anybody say that those black bees are not hustlers, if they are managed right, and at the proper time. I also have one colony of Italians and 2 of Carniolans, but they did not store any honey, as they were only nuclei in August, but I manipulated them in this short time so that they went into winter quarters on 8 frames, and at this writing they appear to be in the best of spirits.

I make all my hives by hand, and up to this date I have 25 hand-made hives. Quite a few of our bee-keepers think that bees will not store as much honey in a hand-made hive as they will in a nice, machine-made hive. Yes, I must say right here that a friend of mine who lives only a short distance away, buys all his hives, etc., and yet he averaged only about 30 pounds per colony. This goes to show that the hive is not the important question in the production of honey. It is how you manipulate the bees. I claim that this, and this alone, is one of the most important steps in bee-keeping. If you have an apiary you must study every colony and make yourself familiar with the conditions of the inside of every hive; you must know the exact age of your queen; whether she is doing her duty; whether there is plenty of brood hatching in the proper time; if there are plenty of bees in the hive; whether there is too much drone-comb or too many useless drones. Those are a few of the many things which the apiarist must acquaint himself with, and must remedy them at once if he wishes to reap any profits from the sale of honey. The coming spring I intend to start an apiary in Rensselaer county. I have planned and arranged this in such a way that I will have everything very convenient.

Wm. J. Hayes.

Lansingburg, N. Y., Dec. 27.

Honey-Plants — Fall-Built Comb — Short Fences a Drawback.

Our honey-source is elm and maple in spring, white clover in summer, the small goldenrod and the white aster in the fall. Of course there are other honey-plants, but these are the main ones.

The bees do not gather any honey from the large goldenrod. It is the first to bloom here. The small or dwarf kind commences to bloom as the large is drying up. The goldenrod is our first fall honey-plant to give any honey to amount to anything. It is of poor flavor and dark in color.

The white aster is next in order when frost does not come too soon. A light frost does not stop the honey being secreted in the

American Bee Journal

flowers if it happens during dry weather. Otherwise, it is entirely ruined until new flowers bloom. The honey from this plant is almost as light in color as clover.

There is a blue flower of the same family here, but so far as I can see the bees gather no honey from it but do gather some pollen.

The comb in fall sections is much more heavily or strongly built, the walls of the cells being thicker. The comb also has more of a brown or yellow look than comb made earlier in the season.

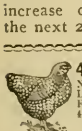
I believe this will be a help to some bee-keepers. At least it was to me. The fence being too short to fill the space in the super they jar apart the sections. I use the plain section 4½x4½x1½, but do not use the thin-end section-holder. I use a section-holder with ends thicker so that they lack only ⅛-inch of filling all the end space; and make the ends of the fence the same width of the end-pieces on the section-holder. I do not have to use a piece at the end of the fence and section-holder. This is a big help where, in the bands of careless people, the pieces at the ends are left out, as that lets the sections spring and warp out of shape, and up against the top, to be fastened there by the bees, so when the top is taken off it pulls the top off of the sections.

Another great drawback is that half the bee-keepers do not use a sufficient amount of foundation, some none at all. And still another is the home-made hive. Very few of them have frames of standard size, then the bee-space is not enough, or is too much, and this causes brace-combs and discouragement to the bee-keeper. W. A. SWEARINGEN.

Epworth, Ky., Dec. 25.

Getting New Subscribers

This should be a good time to get new subscribers for the American Bee Journal. On another page we offer a number of premiums for such work. We hope that as many of our present readers as possible will help us to increase our subscription list. The more intelligent bee-keepers are, the better it will be for all interested in the business. And much of that intelligence is secured by reading. We will be pleased to send free sample copies on request. Shall we not be favored with a large increase of new subscriptions during the next 2 or 3 months?



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Booked now for delivery after May 1st. Best Italian bees, $6 a colony; 2-frame nucleus, $2. Queens—Tested, $1; doz., $11. Untested, 75c; doz., $8.50. Virgins, 40c; doz., $4.50. Cash orders filled first. 1—tf

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NEBRASKA—Collier Bee-Supply Co., Fairbury.
CANADA—N. H. Smith, Tilbury, Ont.

ARIZONA—H. W. Ryder, Phœnix.
MINNESOTA—Northwestern Bee-Supply Co., Harmony.
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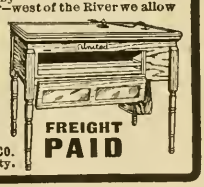

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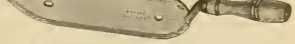

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We are accumulating quite a stock of engravings that have been used in the American Bee Journal. No doubt many of them could be used again by bee-keepers in their local newspapers, on their stationery, or in other ways. Also, if we can sell some of them it would help us to pay for others that we are constantly having made and using in our columns. If there is any of our engravings that any one would like to have, just let us know and we will quote a very low price, postpaid. Address,

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Honey and Beeswax

CHICAGO, Jan. 2.—The market is dull, with sales of choice white comb at 17c, off grades from 1 to 3c less, and amber grades uncalled for. Extracted, 8 to 9c for white, with ambers and dark 6 to 7c. Beeswax, 28c. All sales are of small volume, with this season of the year usually dull.

R. A. BURNETT & Co.

KANSAS CITY, Jan. 2.—The demand for comb and extracted honey is very light and the supply fair. We quote: No. 1 white comb, 24-section cases, $3.25; No. 2 and amber, $3.00; extracted, white, per pound, 8c; amber, 7½c. Beeswax, 25c.

C. C. CLEMONS & Co.

INDIANAPOLIS, Jan. 1.—Demand for comb honey is unusually slow, while best grades of extracted honey are in fair demand. Jobbers are offering the following prices delivered here: No. 1 and fancy white comb 16 to 17c, net weight. Extracted, white clover, 9 to 10c. Beeswax, 28c cash, or 30c in exchange for merchandise.

WALTER S. POUDER.

TOLEDO, Dec. 31.—Owing to the condition in the money market, the market on comb honey is very quiet, and prices have declined considerably, owing to the light demand for all grades of honey. Fancy white comb is selling at from 16 to 17c, No. 1 15 and 16c, with no demand for lower grades. Extracted, in cans, water-white, brings 9½ to 10c; amber, 8 1-2 to 9c. Beeswax, 26 to 28c.

GRIGGS BROS. & NICHOLS Co.

CINCINNATI, Dec. 31. — The market on comb honey is very slow and quiet. No. 1 is selling, in a retail way, for white clover from 16 to 17c. Colorado alfalfa from $3.75 to $4.00 per case of 24 sections. Water-white extracted honey, sage and clover in good demand, ranging from 9 to 10c. Amber extracted, in barrels, slow from 6 to 6 1-2c. Beeswax is slow at 32c. C. H. W. WEBER.

NEW YORK, Jan. 2.—For the past few weeks the demand for comb honey has not been very brisk, and slackened off to quite an extent. We have a fair demand for fancy and No. 1 white, while off grades and dark are rather neglected. Prices are not quite as firm, and show a downward tendency. We quote: Fancy white, 15c; No. 1 white, 14c; No. 2 and light amber, 13c; and dark and mixed grades, 11 to 12c. Extracted is in line with comb honey. The demand is falling off considerably, and for the time being the supply is more than sufficient to meet all demands. Prices naturally are weakened somewhat, especially on lower grades. We quote: California white sage, 9 to 9½c; light amber, 8 to 8½c; amber, 7 to 7½c. Other grades from 6 1-2 to 7c. Beeswax very quiet at 29c.

HILDRETH & SEGELKEN.

PHILADELPHIA, Jan. 1.—Sales of honey have been quite active in this market. We quote: Fancy comb honey, wholesale, 17½ to 18½c; No. 1 white, 16 to 17c; amber, 14½c; extracted honey, water-white, 9 to 9 1-2c; amber, 8c; dark, 7 1-2c. Beeswax, 30c. We are producers of honey and do not handle on commission.

WM. A. SELSER.

DENVER, Jan. 1.—Owing to the financial situation, demand for comb honey is not as brisk as it was during the fall; however, as there is a very small stock to be disposed of yet, prices are not affected to any extent We make the following quotation to our jobbing trade: No. 1 white, per case of 24 sections, $3.15; No. 1 light amber, $3.00; and No. 2 at $2.75 to $2.85. Demand for extracted honey is good, and we consider ourselves fortunate in having a good stock of fine quality to supply our trade. We quote strictly No. 1 white 9 to 10c; and light amber 8 to 9c per pound. We will pay 22 to 24 cents for clean yellow beeswax delivered here.

THE COLO. HONEY-PRODUCERS' ASS'N.

CINCINNATI, Jan. 2.—Owing to the unsettled condition of finances throughout the country, causing much uneasiness and anxiety among the buyers, we look forward to seeing honey reach lower values in the very near future. We are at a loss to say what prices we will ask in days hence, but at this writing we are quoting extracted amber honey in barrels at 6 to 7 1-2c; fancy white in 60-lb. cans, 10c; and strictly fancy white comb honey (which is moving slowly) at 16 1-2 to 18c, according to the quantity purchased. For choice yellow beeswax, free from dirt, 30c delivered here.

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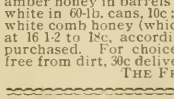

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48th Year
No. 2

February, 1908

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AMERICAN BEE JOURNAL

Apiary of CHAS. ALBERTS, Sun Prairie, Wis.

MR. ALBERTS and "CHARLIE"—(See page 58)

American Bee Journal

Contents for February, 1908

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THE AMERICAN BEE JOURNAL

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GEORGE W. YORK & COMPANY

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As the time of longer evenings is again arriving, we would like to invite our readers to send in their reports of the season of 1907 with the bees.

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Editorial Notes and Comments

Let Glucose Be Labeled Glucose

The name "glucose" is one not in good odor among the consuming public. The manufacturers of the stuff are well aware of this, and since the agitation of the pure-food question have styled it "corn syrup." The great glucose-manufacturing concern has changed its name to "Corn Products Co." The U. S. Chemist, Dr. W. H. Wiley, and members of the Pure-Food Board have rnled that glucose must appear under its true label, and the glucose crowd are making the most strenuous efforts to have this ruling reversed.

Let justice be done to glucose. If people want to buy it, the manufacturers ought to have the right to sell it; but when people buy it they should know that they are buying glucose, and not something that they suppose to be different, under the name of corn syrup. Gleanings has this to say on the subject:

"Dr. Wiley and his associates have stood for pure food, and have all along been strenuous in insisting that all food stuffs be so labeled as to convey no deception. The general public does not know that corn syrup, so called, is glucose; and to allow this change of name would be the grossest kind of deception—a thing that would be entirely out of harmony with the provisions of the national pure-food law under which Dr. Wiley and his associates are working.

"The glucose interests are alarmed, and they have good reason to be; for neither President Roosevelt nor Secretary Wilson has intimated that either one of them proposes to reverse the decision of their subordinates. They have simply signified their willingness to hear argument pro and con; and therefore it means that, unless bee-keepers and all producers of honest pure cane syrups and sugars register a mighty protest, *at once*, against making any change, there is danger that the decision of the pure-food commissioners may be reversed.

"We are sure that the President, *provided* the full facts are put before him, will rule in the interests of the people and not in favor of private corporations and small retailers whose opinions would be biased by the profits arising from the sale of so-called corn syrups.

"We urge every bee-keeper, as soon as he reads this, to write immediately a concise letter to Dr. Harvey W. Wiley, of the Department of Agriculture, Washington, D. C., commending the course he and his associates have taken in ruling against the use of the words "corn syrup" for a product known as glucose. A short but expressive letter should be addressed to Secretary Wilson, Secretary of Agriculture, and to President Roosevelt, Washington, D. C., requesting both to sustain the action of the Pure-Food Board in placing a ban on corn syrup."

It certainly can do no harm, and it may do no little good, to write as thus indicated.

Varying Prices for Honey

There seems to be less stability in prices in Australia than in this country. The Commonwealth Bee-Keeper says that in 1895 honey was stacked up in Melbourne in thousands of tins, waiting buyers at $1.25 to $2.50 per tin; yet 5 years later honey brought $6.25 per tin. If a "tin" means a 60-pound can, that means the lowest price was about 2 cents a pound and the highest 10 cents. In any case, there was a rise in 5 years that made the price 2½ to 5 times as much. Such variation is rather unsettling, but bee-keepers would not likely object providing the variation were always on the upward grade.

Is Bee-Keeping Profitable?

Replying to this question, The Commonwealth Bee-Keeper (Australia), page 80, says that in a first-class honey country bee-keeping is profitable so long as extracted honey brings 5 to 5½ cents a pound. This conclusion seems to be based on the fact that in that country a few leading bee-keepers sometimes produce 30 to 40 tons, while a great many produce 10 to 20 tons. The editor thinks the man who produces less than 8 tons will not consider bee-keeping profitable with honey at 5 cents.

Ventilation of Hives in the Cellar.

Provision should be made for ventilation of each hive, and it does not matter so much just how that ventilation is obtained. In the days of box-hives the proper thing was to turn the hive upside down, leaving the bottom (now the top) entirely open. At the present day some leave the bottom entirely open by taking away the bottom-board, but the movable-frame hive is not turned upside down. Others secure just as good ventilation by leaving the bottom-board on with quite a contracted entrance, but this lack of ventilation below is made up by having ventilation above, the cover being slightly raised so as to leave a crack, or slid forward to leave a crack of ⅛ to ¼ inch at the back. No doubt it would be all right to have the hive entirely open at the top and entirely closed at the bottom, for this would be practically the same as the old plan of turning box-hives upside down; only it would not be generally convenient to have the hive entirely uncovered, especially where hives are to be piled up. If hives are open only at the bottom or top, they cannot probably be too open. But the matter might easily be overdone if there be opening both at top and bottom, especially if the temperature in the

American Bee Journal

cellar average low, for the passage of air through the hive, caused by the two openings, would cool the bees more rapidly than if top or bottom were entirely closed.

Of late some advocate having a bottom-board 2 inches deep. They claim that in the cellar this is much the same as having the bottom entirely open, without the trouble of removing the bottom, while rightly managed it is also convenient for summer.

Selling Colonies of Bees Without Combs

Some years ago considerable business was done in this country at selling bees by the pound. Just a little in this line is the selling of what are called "naked colonies" in Germany. These sales, however, occur in the fall, and a queen accompanies the bees. In fact, each lot sold is a colony of bees with its queen, their combs having been taken from them for the sake of the honey and the wax. Those who buy them feed them up for winter. One man in Praktischer Wegweiser advertises 1,500 of these "naked colonies" for sale. He probably makes a business of buying them to sell again. From the middle of September to the end of October, he offers 4 to 5 pounds of Carno-Italian bees with a young fertile queen for $1.00.

Brood-Rearing in and out of Cellar

Bee-keepers of experience have sometimes insisted that brood-rearing begins earlier in colonies wintered in cellar than in those wintered out. That perhaps is because their experience has been only with wintering in cellar, and they have reasoned somewhat after this fashion: Warmth is a necessary factor in brood-rearing; it is warmer in than out; therefore, breeding begins sooner in than out. In such matters observation is more reliable than reasoning, and observation in the spring easily shows that in general breeding begins outdoors sooner than in the cellar.

Naturally one seeks an explanation for this apparent contradiction. The explanation that has been given is itself something of a paradox. It is colder out than in; *therefore* it is warmer in a brood-nest outdoors than in one in the cellar. A little thought will show that there is nothing so very paradoxical about this. The heat in the brood-nest is always kept up to a certain temperature by the cluster as a sort of stove, the bees consuming the honey as fuel. In the cellar, where it is warmer, the fire burns low; outdoors, where it is colder, the heat of the stove must be greater; so outdoors the greater fire needed makes it warmer in the center of the cluster than in a cluster in the cellar.

Paper Receptacles for Honey

At a conversazione of the British Bee-Keepers' Association, as reported in the British Bee Journal, 433, "The secretary (Mr. Young) showed some vessels made from paper, which had been recently put on the market as receptacles for holding cream, and from all accounts were fairly solid and effective when filled. They were fitted with water-tight caps, which we believe were coated inside with some preparation of milk albumen. He thought they would be of interest that evening, as it was quite possible to utilize them for conveying honey, although there was a possible danger (remote, perhaps) of the wad being blown out of place during transit if fermentation of the honey was set up. They could be produced at from $7.50 to $12.50 per thousand, but could be used only once, while at the same time they could be packed and sent away probably with less risk than was incurred with honey-jars made of glass."

Perhaps the paper caps are the same as those in common use in this country in milk bottles. They would certainly be thrown out by fermentation, but is that any real objection? If fermenting honey is put on the market, perhaps it is best it should be lost by an explosion. Then it will not spoil the market for careful producers.

White Italian Clover Inferior

Italian clover, known more commonly under the name of crimson clover, is now pretty well known, with its brilliant plumelike spikes of bloom, but it seems there is also a white variety lauded in the catalogs. Of this, A. R. Lockhart says in Gleanings, that planted side by side with the crimson, and with like advantages, the white was so late in starting that it was choked with weeds and almost a failure, the crimson being a success.

Basswood as a Honey-Yielder

G. M. Doolittle says in Gleanings, "I once had a colony which gave a yield of 66 pounds of basswood in 3 days, and 302 in 10 days." He further says:

"By going back over my account with my bees for the past 30 years I find that, from basswood alone, my yield of honey has been about 55 pounds on an average from each colony, each year. This is the average yield of the apiary, not the yield of an individual colony."

Many a bee-keeper would be well satisfied with an average of 55 pounds per colony for a series of years from *all* sources, whereas Mr. Doolittle can rely as well as others on white clover and several other good yielders. Certainly there is much in locality, and Mr. Doolittle is to be congratulated.

Comb and Extracted from Same Colony

Some have strongly advocated the advantage of having sections and extracting combs on the same hive at the same time. Whether or not it may be successful in some cases, it is at least certain that it may be a failure in some cases, as reported by G. M. Doolittle, in the Bee-Keepers' Review. He says:

"I have tried just that plan several times, varying it each time to see if I could not overcome the difficulties which presented themselves at every trial, and I will say frankly, that I have not succeeded in producing a single section of 'fancy' honey when so working; and only a very few that would grade as No. 1; that is, at any time when the extracting super and the sections were on the hive at the same time.

"It is correct that, by putting an extracting super on the hive as soon as the colony bcomes populous enough to enter the same, the bees will at once take possession of the combs therein, but it is *not* correct that the bees will begin work in a super of sections, to any advantage, until the combs in that extracting super are nearly or quite filled, no matter how much crowded for room the colony may be.

"Empty comb in an extracting super, and section honey, do not go together any better than does poultry, at liberty, and a bed of ripe strawberries. The honey will all go into the empty combs *every time*, no matter how many sections filled with foundation there are between that extracting super or empty combs and the brood-chamber below; and, with all of the skill at my command, I have never been able to overcome this difficulty."

He also adds that if the extracting combs are old, the cappings of the sections will be darkened by the bits of dark material carried from the extracting-combs.

Comb Honey Versus Extracted

E. D. Townsend, in the Bee-Keepers' Review, tells about trying side by side for a number of years colonies producing comb honey and others producing extracted, and says:

"After these years of comparison of results between colonies worked for comb honey, and those worked for extracted honey; we (the boys and I) have come to the conclusion that, after the yards are established, we can work three yards for extracted honey, with the same labor that it requires to work one yard for comb honey; and harvest just as many dollars' worth of honey, from each of the extracted yards."

Editor Hutchinson adds this:

"Leonard Griggs, of this place, runs three apiaries, and has been producing both comb and extracted honey, and, last fall, he told me most emphatically, that he was going to cut out comb honey, as he found that it cost him three times the labor, besides making a complication in the management."

This should cause the man who has never tried producing anything but comb honey to do some thinking. It does not necessarily follow, however, that every bee-keeper can make three times as much with extracted as with comb. There are many intelligent bee-keepers who have had experience in producing both kinds of honey, who yet continue producing comb honey in part or wholly. They would hardly do so unless in their locality and under their conditions there was money in doing so. "Let each man be fully assured in his own mind."

Feeding Bees in Winter

The wise bee-keeper will seldom have occasion to feed bees in winter; if very wise, never. For he will take care in advance that there shall be not only a plenty but an abundance of food in the hives to last through the winter, and

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also through the spring as well. The inexperienced, however, is likely to be caught with some colonies having so little winter provision that he fears starvation. However bad feeding in winter may be, death from starvation is worse. So if danger of starvation is feared, better feed at once. Especially toward spring will these occasions arise.

After bees get to flying daily one need not be so very careful what or how one feeds; almost anything sweet may be fed if the bees will take it, if it be not absolutely poisonous. But so long as confinement continues, in some places well into April, the better the feed and the less the disturbance the better chance for the bees.

An outside, empty comb can be taken out, and the adjoining combs moved back until the cluster of bees is reached, and a heavy comb of sealed honey placed next the cluster, and the hive then closed. If this be quietly done, the disturbance will do little harm.

Unfortunately, those who have bees likely to starve in winter are not likely to be so provident as to have on hand a stock of sealed combs. Granulated sugar in the form of candy may be used. A cake of hard candy, made simply as when made for children to eat, of any convenient size and ¾ to 1¼ inches in thickness, may be laid on the top-bars and covered over. Some prefer Scholz or Good candy, made by kneading powdered sugar with a small amount of extracted honey into a stiff dough.

While feeding above is generally advised for winter, where bees are cellared, and where there is a deep space under the bottom-bars, as is now becoming more or less common, it may be much better to feed below. One reason for this is that there is no disturbance from uncovering the bees; even if the hives are piled up 5 or 6 high, the feed can be put under the bottom-bars without taking down a hive. Another advantage from feeding below is that there is no danger of the candy becoming soft and dripping down upon the bees, as sometimes happens when it is put over the top-bars, although if put in a wooden butter-dish there is little danger. Even if one has combs of sealed honey, it may be much better to shove one under the frames — certainly it is much easier — than to open the hive to put the comb in, especially if the hive to be opened has 3 or 4 others piled on top of it. If necessary, something must be under the comb to raise it up so it touches the bottom-bars. The same may be said of candy, whether given in or out of a dish. An especial advantage, when using a dish, is that the feed is toward the bees in feeding below, whereas when feeding above, the bees have the bottom of the dish next to them.

However the feeding be done, one must see to it that the bees get to the feed, and with a weak colony the bees may go up to it more readily than down. Generally, however, it is better to have only strong colonies to winter.

Reports on Bees and Honey Crop

As these are still coming in, we thought it best to wait until the March number before publishing them. Also, there is so much other important matter on hand just at this time that we think it may be as well to wait until next month before giving place to the reports on bees and honey that were called for in the December number.

Queer Place for a Queen-Cell

Bees generally prefer to build queen-cells on the lower edges of combs or on some part where there is a hole in the comb or some break in its regular surface. Occasionally they build a cell upon

an end-bar or some part of the frame entirely detached from the comb. The illustration shows a queen-cell on the under surface of a bottom-bar, all the more detached from the combs because the bottom-bars were 1⅛ inches wide.

The picture herewith was sent to us by Dr. Miller. It shows how bees sometimes build queen-cells in his "locality."

Detroit Secures the National Convention

Secretary Hutchinson, of the National Bee-Keepers' Association, sends this notice:

EDITOR YORK:—By a unanimous vote, the Executive Committee of the National Bee-Keepers' Association, has decided to hold the next annual convention in the city of Detroit, Michigan. The exact date has not been decided, but it will be after the hot, dusty, busy season has passed, and before the cold of winter has come—in those glorious days that come only in the autumn.

The National Association has met in Detroit only once, nearly a quarter of a century ago, but that meeting was well attended — practical, enthusiastic and harmonious.

The majority of bee-keeping specialists, those who attend conventions, live in the northeastern part of the United States and Canada, and Detroit is very nearly the geographical center of that district. It is easily reached from the middle South, from the East, from the middle West, and from Ontario, hence a great crowd of practical men can be gathered at that point.

W. Z. HUTCHINSON, *Sec.*

New Bee-Bulletin

Through the kindness of Dr. E. F. Phillips, we have received from the Department of Agriculture at Washington, D. C., a new Bulletin, No. 75, relating to bee-culture. It is in two parts. Part I. is devoted to "Production and Care of Extracted Honey," by Dr. E. F. Phillips, and "Methods of Testing for Bee-Keepers," by Dr. C. A. Brown. Part II. is devoted to "Wax-Moths and American Foul Brood," by Dr. Phillips. This Bulletin may be obtained from the Superintendent of Documents, Government Printing Office, Washington, D. C., at the price of 5 cents for each part. All remittances should be made payable to him. Stamps, personal checks, or foreign money will not be accepted in any case.

Decision as to Guarantee of Honey

There has been some question, since the coming in of pure-food laws, as to who is the responsible party in cases where honey passes through several different hands. Attorney-General Bonaparte has issued a decision, in response to a request from the U. S. Secretary of Agriculture, that may be considered conclusive. He takes a particular case as a type of the class, and says:

"An examination having been made in the Bureau of Chemistry, in accordance with section 4 of the act, of a sample of food purchased from a retail dealer in the District of Columbia, and the food having been found to be adulterated, the dealer was cited for a hearing, and, having appeared, established as a defense under which he claimed protection a written guaranty, conforming to the requirements of section 9 of the act, from a Maryland wholesaler who had sold him the food and shipped it to him in the District of Columbia in the exact condition in which he sold it here.

"The Maryland wholesaler, having been then cited, in turn appeared, and established a similar guaranty, under which he also claimed protection, from a Pennsylvania manufacturer who had sold him the food and had shipped it to him in Maryland in the exact condition in which he had, in turn, guaranteed it

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and shipped it to the retailer in the District of Columbia.

"The question upon which my opinion is requested is whether, upon such state of facts, the Maryland wholesaler is amenable to prosecution for violation of the act, or is protected by the guaranty from the Pennsylvania manufacturer?"

He decides that the guaranty of the Pennsylvania manufacturer affords complete protection to the Maryland wholesaler, the case being an interstate sale, and the Pennsylvania man being a resident of the United States. Moreover, the Maryland wholesaler is not subject to prosecution by reason of the guaranty he gave the District of Columbia retailer. But he says:

"I should add, however, that the fact that both the District of Columbia retailer and the Maryland wholesaler are protected from prosecution by the guaranties which they have established from their respective vendors, does not, in my opinion, exempt the adulterated food from confiscation under section 10 of the act, which provides, inter alia, that any adulterated or misbranded food or drug which is being transported in interstate commerce for sale, or, having been transported, remains unloaded, unsold, or in original, unbroken packages, or is sold or offered for sale in the District of Columbia, may be proceeded against in the district where found 'and seized for confiscation by a process of libel for condemnation.' The provision of section 9 that no dealer shall be prosecuted when he establishes a guaranty from his vendor merely affords protection, in my opinion, against criminal prosecution, fines, and other penalties to which the dealer would otherwise be personally amenable, and does not in any way affect the liability of the merchandise to confiscation under the provisions of section 10."

This decision seems to be commonsense, leaving the matter as it should be. If a dealer were to have no protection against criminal prosecution, fines, and other penalties when handling honey in original packages, there would be a hindrance to trade, for he could not dare to handle anything concerning whose purity he was not absolutely certain. The danger of the smaller evil, confiscation, will merely make him careful to buy only of responsible parties.

Bee-Inspection Law of New Mexico

George Eversole has been appointed bee-inspector for Precinct No. 8, Flora Vista, by the county commissioners, under the provisions of the bee-law, passed by Mr. Eversole's efforts and those of Representative Price Walters. The law will be strictly enforced by Mr. Eversole, and is as follows:

CHAPTER 30.—An Act relative to the inspection and creating the office of inspector of bees. H. B. No. 105; Approved, March 16, 1907.

Be it enacted by the Legislative Assembly of the Territory of New Mexico:

Section 1.—Upon the written application, under oath of any five actual bee-keepers, residing in any precinct in this Territory, alleged upon information and belief that the disease known as Foul Brood or any other contagious or infectious disease, exists among the bees in said precinct, or that infected articles are kept in said precinct, and that there is danger that such disease will spread to other apiaries, being made to the chairman of the board of county commissioners of the county in which said precinct is located, the said board, shall appoint some competent, actual bee-keeper, residing in said precinct, to be precinct inspector of bees; and the applicants shall state, in this application, the names of the actual bee-keepers of the precinct, so far as known to them.

Sec. 2.—The person so appointed shall within five days after his appointment, file with the clerk of such board, his written acceptance of the office, and the usual oath of office; or in default thereof, the board shall, in the same manner, make new appointments, until the said office is filled. The inspector shall hold office during the pleasure of the board, and until his successor is appointed and qualified.

Sec. 3.—Every bee-keeper or other person who shall be aware of the existence of Foul Brood, either in his own apiary or elsewhere, shall immediately notify the inspector of bees, if there be one, of the existence of such disease, and in default of so doing shall, on summary conviction before a justice of the peace, be liable to a fine of five dollars and costs.

Sec. 4.—On receiving notice from any source of the existence, in any apiary in his precinct, of the disease known as Foul Brood, or any other infectious or contagious disease of bees, the inspector of bees shall forthwith inspect each colony of bees and all hives, implements and apparatus, honey and supplies on hand or used in connection with such apiary, or otherwise distinctly designate each colony and apiary which he believes infected, and notify the owner or person in charge of said bees thereof, in writing or otherwise, and the owners of said bees, or the person in charge thereof, shall, within five days thereafter, practically and in good faith, apply and thereafter fully and effectually carry out to and upon said diseased colonies, such treatment as may have been prescribed by the inspector for such cases; also thoroughly disinfect to the satisfaction of such inspector all hives, bee-houses, combs, honey and apparatus that have been used in connection with any such diseased colonies; or, at his election, the said owner or person in charge of such bees may, within the same time, utterly and completely destroy said bees, house, comb houses, honey and apparatus, by fire, or bury the same in the ground, with a covering of not less than two feet of earth

Sec. 5—After inspecting infected hives or fixtures, or handling diseased bees, the inspector shall, before leaving the premises or proceeding to any other apiary, thoroughly disinfect his own person and clothing, and shall see that any assistant or assistants with him have also thoroughly disinfected their persons and clothing.

Sec. 6—The inspector shall have full power, in his discretion, to order any owner or possessor of bees dwelling in box hives in apiaries where the disease exists (being mere boxes without frames) to transfer such bees to movable frame hives within a specified time, and in default of such transfer, the inspector may destroy, or order the destruction of such box hives and the bees dwelling therein.

Sec. 7—Should the owner or possessor of diseased colonies of bees, or any portion of said colonies, be they queens or workers, or of any affected appliances of bee-keeping, knowingly sell or barter such diseased colonies or portion of colonies, or infected appliances, he shall on conviction before any justice of the peace, be liable to a fine of not less than fifty dollars ($50) nor more than one hundred dollars ($100), or to imprisonment in the county jail for any term not exceeding two months.

Sec. 8—Should any person whose bees have been destroyed or treated for Foul Brood sell, or offer for sale, any bees, hives, or appurtenances of any kind, after such destruction or treatment, and before authorized by the inspector to do so, or should he expose, in his bee yard or elsewhere, any affected comb honey, or other infected thing, or conceal the fact that such disease exists among his bees, he shall, on conviction before a justice of the peace, be liable to a fine of not less than twenty dollars ($20) nor more than fifty dollars ($50), or to imprisonment in the county jail for a term not exceeding two months and not less than one month.

Sec. 9—When an owner or possessor of bees shall disobey the directions of the said inspector, a justice of the peace, may upon the complaint of the said inspector, cause a sufficient number of special constables to be sworn in and such special constables shall proceed to such owner or possessor and assist the inspector to seize all diseased colonies and affected appurtenances, and burn them forthwith; and if necessary, the said constables may arrest the said owner or possessor and bring him before a justice of the peace, to be dealt with according to the provisions of the preceding section of this act.

Sec. 10—Before proceeding against any person before any justice of the peace, the said inspector shall read over to such person the provisions of this act or shall cause a copy thereof to be delivered to such person.

Sec. 11—The said inspector shall include in his annual report to the board a statement of his work during the preceding year, which statement shall include: First, the number of colonies inspected; second, the number of colonies diseased; third, the number of colonies destroyed by fire or otherwise; fourth, the names of the owners, and the localities where found; fifth, the amount paid him for his services, and expenses for the preceding year.

Sec. 12—All acts and parts of acts in conflict with this act are hereby repealed.

Sec. 13—In the opinion of the Legislative Assembly an emergency exists, and this act shall take effect from and after its passage.

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The National Convention Report

This Report for 1907, of the Harrisburg convention of the National Bee-Keepers' Association, is on our desk. It contains 120 pages in all, and has the Constitution, names of members, list of bee-keepers' associations, financial report, etc. There was in the treasury Nov. 1, 1907, $668.49.

A copy of the Report is mailed to every member of the National. If you are not now a member, send $1.00 to Treasurer N. E. France, Platteville, Wis., who will send you a receipt covering one year, and also a copy of the 1907 Annual Report. The latter alone is well worth the dollar.

Mercy in a "Fine" Comb

Referring to Dr. Miller's comment on "Mercy in the Comb," on page 9, Hon. Eugene Secor, of Forest City, Iowa, says this:

"In regard to Dr. Miller's answer to that conundrum, if he means a *fine* comb, I agree with him that it represents mercy."

We don't know but what if this affair is allowed to go any further, some one will be trying to get into Dr. Miller's hair with a "fine"-tooth comb! And then it would be very clear where "mercy" is. At least, there might result a cry for mercy, if the comb-operator were not very gentle. And yet, we wouldn't have any one think that Dr. Miller needs a fine-tooth comb run over his head for "extracting" purposes, as we remember having seen in the East years ago—no personal experience, however.

Northern California Convention

The Northern California Bee-Keepers' Association will hold its 4th semi-annual convention in Pioneer Hall, 7th St. between J and K, Sacramento, Calif., on Feb. 19 and 20, 1908. The sessions will be at 10 a. m., 1 p. m., and 8 p. m. The objects of this association are the promotion and protection of the interests of its members. Headquarters at the Western Hotel. All bee-keepers are cordially invited to attend.

F. Jay Lewis, *Pres.*
B. B. Hogaboom, *Sec.-Mgr.*

"Songs of Beedom"

This is a pamphlet, 6x9 inches, containing 10 songs (words and music) written specially for bee-keepers, by Hon. Eugene Secor, Dr. C. C. Miller, and others. They are aranged for either organ or piano. The list includes the following: "Bee-Keepers' Reunion Song;" "The Bee-Keeper's Lullaby;" "The Hum of the Bees in the Apple-Bloom;" "The Humming of the Bees;" "Buckwheat Cakes and Honey;" "Dot Happy Bee-Man;" "Bee-Keepers' Convention Song;" "The Busy, Buzzing Bees:" "Spring-Time Joys;" and "Convention Song." The pamphlet is mailed for 25 cents, or sent with the American Bee Journal one year—both for only 60 cents. Send all orders to the American Bee Journal, 118 W. Jackson, Chicago, Ill.

Conducted by EMMA M. WILSON, Marengo, Ill.

Cleaning Separators with Lye.

In Miss Wilson's article in "A B C of Bee-Culture," on cleaning fixtures with lye, she doesn't give any formula as to how much lye to use for a given quantity of water. Can you? As lye is a poison would there be any danger to the bees? and do the bees object to the fixtures treated in this way? Do you follow the plan of cleaning articles in this way? It looks good to me, for the separators are pretty flimsy to scrape much. W. S. P.

As I am the culprit Dr. Miller has turned the question over to me. It is true that I did not give any formula as to amount of water and lye used, because I did not have any myself. I used a large iron kettle that would hold several pails of water over a fire out-of-doors. I filled the kettle perhaps 2-3 full of water, and when boiling hot added 2 or 3 cans of concentrated lye, as we had about 3000 T-tins to clean. The lye must be added very gradually, or it will cause the water to boil over. It is not very particular just how much you use—we are never very saving of the lye; the only thing needed is to have it strong enough to remove quickly all the propolis, and as the T-tins are thoroughly rinsed in clear cold water, there is no trace of lye left on them. They look like new tins.

Yes, we always clean our tins in this way. We have never used it to any great extent in cleaning wood, although we have cleaned both supers and separators, and the bees never seemed to object.

So far as removing the propolis was concerned, it was a success; but the separators curled badly in drying. Of course, this difficulty might have been overcome by putting them in a press; but as new ones were not very expensive we preferred to buy new rather than fuss cleaning the old. In case of fence separators it is different, as they are too expensive to throw away; and, although I have not tried it, it is pretty certain that they will not curl as the plain separators did.

The plain separator is simply a very thin piece of wood, 3½ inches wide, and, without any restraining influence will curl much as a piece of paper would; and the wider the separator the more chance to curl. The parts of the fence are narrow, giving less chance to curl, and they are held in place by the cross-pieces.

It would be an easy thing to pile evenly in a pile a lot of fences after cleaning them, laying a weight upon them; and, if allowed to remain thus until perfectly dry, it would seem they should be just as straight as when new.

Of course, glued separators could not be cleaned in this way; but I understand the fences are now nailed, so they can be dipped in hot water or lye without injury. One great objection to the fence separator has been the difficulty of cleaning it properly; and if this can be done away with it will be a big item.

Don't put too many either of the separators or T-tins in the kettle at a time, for there must be room for them to be moved about a little. This can be done with a four-tined pitchfork, slowly stirring them up and down, so that the lye can get to all parts, and so that the movement shall wash off the loosened propolis.

If the lye is strong enough, a very few minutes will suffice to clean them thoroughly, and they can be lifted out with the fork into a tub of clear rinsing water, then out of the rinsng water in the same way; if separators, piled up to dry as before suggested; if T-tins, allowed to drain until dry.

Whenever the solution acts too slowly, more of the concentrated lye must be added, and water must also be added as fast as needed. See that the water is kept hot all the time.

Bee-Keeping for Women.

The editor of the American Bee-Keeper—his name is Harry E. Hill—whatever may be his characteristics in other respects, is decidedly lacking in gallantry toward the fair sex. He publishes an article "clipped from the Sunday supplement of some of the large city dailies," the article being written by a lady, and then he—a mere man—comments upon it in such way as to throw doubt upon the reliability of the statements.

One of the statements is that, "As to the profits obtainable from one hive, bee-keepers generally agree that it should not be less than $15.00 a year, and as to the number of colonies that can be cared for by one individual, the following is quoted 'from the experience of a woman who has succeeded in the business':

"After two years I gave up my position and devoted my whole time to my bees, except in the cold winter months, when what I found to do would make another item. That was the beginning. Now I have more than 500 colonies of bees—as many as I can care for properly, and do all of the work myself,

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except sometimes during the swarming season."

Upon which that man Hill thus comments:

"The reader's attention is especially invited to the concluding paragraph, where the energetic lady almost unassisted, takes care of 500 colonies, which, according to 'bee-keepers generally,' should yield $15 a year each. This, then, gives the lady an annual return of $7,500. Who wouldn't harken to the 'Call of the Wild?'"

He might about as well have said in plain terms that he didn't believe that an average of $15 a year could be netted from each colony, and that 500 colonies was rather an over-estimate as the number to be cared for by one individual, except sometimes during the swarming season, nor to make so much clear from each one, but a woman—

The spirit of that editor is also shown in another way. The writer says:

"The limited space of this article will not allow me to go into details of marketing, size of packages and prices, but I will gladly answer by letter all inquiries sent me on the subject."

And then Mr. Hill doesn't give the least hint as to the address of the lady, well knowing that thousands of us sisters will be just dying to get "details," without which we may fall just a little short of reaching that $7,500 a year.

Seriously, it is amazing that our great dailies, with all the talent displayed in their conduct, should so often print such stuff as they sometimes do under the guise of information about bees. All that seems necessary is for some man—latterly oftener a woman—to go and spend an hour or a few hours interviewing a bee-keeper, that being all the preparation necessary to give information regarding the entire business; or at least all except a few details that the well-informed correspondent will, upon inquiry, gladly answer by mail.

In most cases these reporters must be 'prentice hands. What reporter of real experience would solemnly give us facts—statements that would allow the plain deduction that there is a woman who clears from her bees annually $7,500? At least, if there be such a woman, why not give her name and place of abode?

Perhaps, after all, it is well to print such things, they are so amusing. Take this: "Before extracting the honey a preliminary puff of smoke is sent into the hive." That is, before beginning to turn the crank of the extractor, the operator must each time run out and send a preliminary puff of smoke into the hive. Or, would it do to have a hive in the extracting-room for the express purpose of being puffed into, thus saving travel?

The picture accompanying this article is funny, very funny. A lady stands over a hive holding a comb in her hand, the cover still on the hive, all but the middle board, upon which Editor Hill comments: "Note how the magic hand of the fair apiarist simply rips the ridge-board from a gable cover and extracts the brood-frame without even removing the lid."

A Woman Bee-Keeper Who Makes $7500 a Year.

Plainly, the bees in the case are of the kind that do not sting, for the lady operator is dressed as if about to make a call, wearing a veil in up-to-date style, the veil leaving bare the entire neck and the back of the head. But a lady capable of clearing $7,500 a year from her bees—why shouldn't she be equal to the task of training them so they would never think of stinging one on the bare neck, or to show such disrespect as to get into one's back hair?

Conducted by LOUIS H. SCHOLL, New Braunfels, Tex.

Three-Band Italians and Other Races of Bees

After trying all the leading races of bees, the "good, old three-banded Italians" have proven themselves the best all-purpose bee. They are industrious, and are, as a usual thing, of a remarkably even temperament, so they can be handled readily with little smoke. They defend their homes remarkably well, and especially against the wax-moth, They are adapted to a greater variety of conditions than any other race of bees, hence they are the best bee for the beginner to select.

Caucasian Bees.

The Caucasians received much attention and comment, some time past, which has been dropping off somewhat. They were tried by a great many persons, but, as to being better than our other races, definite proof is wanting. They are, undoubtedly, very gentle bees, *in their* purity, although some reports to the contrary have been received. Although adapted better to colder climates than the Italians and other Southern races, I doubt whether they will prove themselves better as all-purpose bees than the three-banded Italians.

Holy Land Bees.

These bees have proven better in localities with more than one honey-flow, on account of their constant alertness and continuous breeding as long as there are sufficient stores in the hives. The Italians lack in this, in that they are excellent for one honey-flow when they do their best, but after which they slow down in breeding, clog the brood-nest with stores for winter, and become too weak for any flows later.

Cyprian Bees.

The Cyprian bees have been tried thoroughly enough. They are called "Cyp." for short. This ought to have the same meaning as "Zip," for that's the way they go at the operator. In most respects they resemble the Holy Lands, only that the "Cyps" are still more nervous, and always easily aroused to battle, which makes them too "stingy" for me. They are good comb-builders, and great storers of surplus honey, capping the combs rather whiter than Italians.

This race of bees holds the highest record of honey stored by one colony, nearly a thousand pounds in a single season. However, I believe that the Italians can, by proper and careful breeding, be brought up to a strain that can not be excelled by any other, as an all-purpose bee.

Cotton as a Honey-Plant

The great plantations of cotton in the Brazos River valleys furnish a source for a good number of apiaries. The yield is quite certain every year, beginning in July and lasting until frost

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in the late fall. The honey is very light in color, and of a good flavor—a distinct one of its own—which, in the very ripe honey, is often pronounced "to taste just like candy." Especially is this true of the granulated ripe cotton honey. It then is very white and fine-grained.

Whenever I have had a crop of pure cotton honey from the "Bottom" apiaries, there was no trouble selling everybody some of it, who had tasted of it before. It *must be ripe,* though.

When first gathered it is very thin and clear. The flavor of this raw nectar is strong, nauseating, and tastes decidedly like the sap of the cotton-plant itself. This is lost, however, in the process of evaporation, that takes place in the ripening of the nectar, and is not noticeable in the thoroughly ripe product. During this evaporation, in a heavy flow from cotton, there is a strong smell in the apiary, just as that from a lot of cotton leaves that have been rubbed to pieces, so strong is the cotton odor in the nectar. I remember seasons when this odor was so strong and nauseating that it had a sickening effect on the apiarist; on calm days even prohibiting his operations. When there is a breeze the odor is driven off, and can be noticed several hundred yards from the apiary.

It is not a wonder that the nectar should so much resemble the sap of the plant, if we consider where the nectaries of the cotton-plants are located. Instead of the bees going inside of the flower to "fill up," they rarely do so except when gathering pollen from the stamens of the flower. And as there is a large cluster of these in the great bell-shaped flowers, the bees become more or less covered with the pollen-dust. This is white in color, and it is an easy matter for the apiarist to tell at once that his bees are working on cotton.

Unlike most of our honey-yielders, the nectaries of the cotton are on the

Cotton Leaves Showing Nectaries.

outside of the flower. These are located under the involucre, that is, on the thickened portion of the flower where the stem stops. There are three of these, one under each of the sepals, the three leaflike bracts that enclose the lower part of the buds, flowers and the cotton-ball or pod. It is not necessary, even, for the cotton to come into

A Cotton Bush.

bloom before bees can gather the nectar. When the buds are still closed, the nectaries under them, after a certain age, begin to secrete nectar before the flowers open.

Besides these there are nectaries under the large leaves of the cotton, situated one on each main rib of the leaf. In the large, well-developed leaves one such nectary will be found on each of the three ribs, while only one on the middle rib is found on many leaves. These are little indentations about midway along the ribs where a widening of the rib may be noticed. These are also protected from rains, being under the leaves, as those under the involucre of the buds, called "squares," and the flowers, "blooms."

"The nectaries being so close in proximity to the plant-body may be the reason the raw nectar is so like the sap of the plant itself.

Cotton is one of the main sources for surplus honey in Central and North Texas, and much cotton honey is produced each year. There are certain conditions necessary for a good yield from cotton. Rank growth during a wet season, on rich soils, together with moist, warm weather, are ideal for a fine flow. On lighter soil, and in dry seasons, the secretion is not so abundant, no honey being obtained from it in our sandy land districts at all. The soil and conditions also affect the color and quality of the honey materially. With the most favorable conditions above, the honey will be very white and clear, while the latter conditions produce a light amber honey.

Improving the Bees

Procure a few *good* queens of a good race of bees and use them for improving the bees you may already have. This is done by rearing young queens from the best of these, and using the others for drone-rearing. If, then, the undesirable drones from other colonies are kept down to a minimum, by leaving as little drone-comb in those hives as possible, and using entrance-guards or drone-traps at the entrances, a large percent of the young queens will be purely mated. Or the young queens may be taken, in small nuclei, to some "mating ground," where no other bees fly except those from the colonies with the select drones, that have previously been brought there for the purpose. For all practical purposes, however, the first-named manner of procedure is the better, as it is less work and trouble, and a few mismated queens will do no harm. These can be weeded out gradually at any later time. Generally, such queens are better, anyhow, than those already in the yard .

I hardly believe it will pay to try to have all queens absolutely purely mated for honey-production alone, as it is very difficult and expensive to do this. Our desire should be, though, to have as good queens as we can possibly have, be they pure or only hybrids. I do believe, however, that after an apiary is once stocked with a pure race entirely, it is much easier to keep it at a better and more profitable level

How I Lost in Two Apiaries.

To tell of one's successes and reverses as a means to amuse the world, is considered, I dare say, poor policy; but just for the sake of change, I will "top up the cart" along this line. The world cares little for one's successes or losses, but either will make good reading if properly put, and chronicling the latter might aid some one to steer shy of a similar circumstance. The past year was only a moderate one for honey with me, yet I lost severely on two of my apiaries, the rest attaining normality.

The spring of 1907 here was of the worst type. It rained practically every day for 6 weeks, and, moreover, the temperature was very low, keeping the bees indoors very nearly all the time. I began to feed April 10, and stopped June 5. I kept all my yards in good condition as to colonies, except one which we will notice presently. Just about June 8 conditions became right, and without notice I found myself in the midst of one of the greatest honey-flows I ever saw. I had one yard of some 60 colonies located in the midst of mesquite and horsemint on one side, and cotton on the other. This yard was getting ready for their honey to be taken by June 25.

In the meantime I had ordered a large shipment of bees from South Texas, and had been notified that the car of bees would start just at the time my bees would need to have their honey taken, or about June 25. The bees came June 29. I would not take the honey, expecting every minute to have to stop and see to the incoming bees.

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To make a long story short, it was a matter of impossibility for me to get to the yard to take honey before July 4th and 5th. The result was a loss of one filling of nearly 3000 pounds of honey, estimating, of course, the time lost at the rate the bees were storing honey before and after they were robbed. A loss of a like amount occurred at my home-yard, due to ignorance, or possibly not doing just as I should have done. I had fed my bees for 3 weeks at home during the fearful weather spoken of above, and had a fine lot of brood at the time in the larval state.

I had a can of about 3 gallons of honey that was 2 years old, and just a little sour. It had been kept in a tin vessel and had grown very dark. The can had the appearance of being very rusty. I examined the honey as to its acidity and rust, and concluded that it was all right to feed to the bees. I put about 2 gallons of water to the honey, made a thin syrup and upset it in the feeding-trough, and 2 hours later it was all in the hives. There were 85 colonies in this yard. Some 5 or 6 days later, upon examination, I found that practically all the brood had been aborted. There was no possible cause for the disappearance of this brood except feeding of this honey. When I washed the can it was bright, and showed no sign of rust. I have concluded that the honey was the cause of the trouble, and caused me to lose one "taking" of honey by not having bees at the right time. As a matter of course, a loss of 5000 or 6000 pounds of honey is better saved than lost, but it doesn't bother me any, when if I cared for my bees as they should be cared for at times I would have to lose out on my farms. With me something has "to burn" at times, and it may just as well be the bees as any of my other interests. T. P. ROBINSON.

Bartlett, Tex., Jan. 16.

Conducted by J. L. BYER, Mount Joy, Ont.

Bee-Keepers and Bee-Papers.

It is often and truthfully said that *every* bee-keeper should take one or more bee-papers. At the present time there is not the slightest excuse for any Ontario bee-keeper not taking at least two bee-papers, as the terms on which they can be secured are about as near getting "something for nothing," as can be found in this world.

As an illustration: A few days ago a friend in Toronto enclosed $1.00 and asked me to enroll him as a member of our York County Association, and also to send him a bee-paper. In reply I told him that the $1.00 gave him a year's membership in our local association, and in the Ontario Bee-Keepers' Association, as well. In addition he will receive the Canadian Bee Journal one year, and his choice of one of 3 bee-papers published in the United States one year. No doubt my friend thought it was "bargain day," in the line of bee-papers; and don't you, dear reader, think so, too?

If any Ontario bee-keepers have not yet taken advantage of these extraordinary inducements, by all means do so at once, and help to increase the membership of the Ontario Association and at the same time share in the benefits and privileges of this organizaton.

Of course, it is owing to the Government grant that these concessions are possible, and as bee-keepers it is the least we can do, to show that we appreciate the interest taken in the industry. Any one remitting $1.00 to the Secretary of the local association, will be entitled to membership and privileges as stated; or send money to Sec. P. W. Hodgetts, Parliament Buildings, Toronto, and he will forward 50 cents to the Secretary of your local association. I am not positive as to whether *all* the local associations, give a bee-paper as a premium, but in every case the Canadian Bee Journal is sent by the Provincial Association. Write your Secretary, and in most cases you will find that an additional bee-paper will also be received.

Favorable Conditions for 1908.

Our friends in California and Texas are already talking of "prospects" for next season's crop. A little early yet here in Ontario to do much surmising, but conditions so far have been favorable. Although we have had no weather from Nov. 20 till now (Jan. 20), that bees could fly, yet weather conditions have been of such a nature that I hardly think a flight has been required. Only twice yet that the temperature has got down to zero, and while we have had as *warm* weather, yet the temperature has been, for our latitude, remarkably even and moderate. Bees outdoors seem to be wintering nice and quiet, and the 25 colonies in a cellar four miles from home, at my last visit appeared to be in good condition.

Clover looked well in the fall, and it has had a nice blanket of snow over it since Dec. 15. While alsike is rarely damaged much in the winter, yet with no snow on the ground the frost penetrates deep into the soil, and in the early spring (the trying time) the clover is more apt to "heave," than is the case when there has been a covering of snow to keep out the frost.

With two poor seasons in succession it is to be hoped that there will be a change for the better this year. One thing is certain, any honey produced will be pretty sure to realize fair prices, as there will be no old crop carried over to affect this year's crop.

"Bees and Boys."

The above caption of an item in one of our local papers, at once reminded me of the story of the schoolteacher who told her class to compose a sentence in which the words, "boys," "bees" and "bears" would be used. One young hopeful handed in the following: "Boys bees bears when they go in swimmin'." However, the item in question referred to other phases of the "bees" business and is as follows:

"In many of the California apiaries boys are being employed almost altogether to take care of the bees. It is only in swarming time that other help is needed. After a little experience a boy can care for many hives, and it is said they are not stung as often as the men. It has been figured up that a farmer's boy who is given 5 hives of bees to begin with, and who will work industriously, can make more money in 10 years than his father can on a farm of 160 acres. Clover honey brings a good price, and the market is always short of it."

When such stuff as this is being circulated no wonder that there are many cases of "bee-fever" that end in disgust. It is a wonder all the farmers who have 160 acres do not abandon their farms and keep bees! By the way, it will soon be in order to look on the markets for California "clover honey," produced in apiaries managed entirely by "boys."

Millions in Honey.

"To the time-worn query, 'How doth the little busy bee improve each shining hour?' an official of the Apiary of the United States Department of Agriculture answered:

"'By making enough honey in a year to load a train of freight cars which would extend in a straight line from New York to Detroit, and would have a cash value of $25,000,000; that value being based on wholesale and not retail prices, too.'

"Vast attention is being given by the Agricultural Department to teaching the army of bee-keepers in the United States—to get the best results. The startling statement was made that through the carelessness of this army of men and women more than 150,000,000 pounds of honey is lost annually, which could be saved if modern methods were adopted."

The foregoing, taken from the Montreal Herald, reminds one of "going away from home to hear news," as it is quite unlikely our American cousins are aware that they are wasting such a vast amount of honey by failing to adopt "modern methods." It is to be hoped, when they see this, that they will hasten

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to fall in line with "modern methods," and stop this awful waste at once.

Seriously speaking, I wonder if that $25,000,000 worth of honey, is anything near a correct estimate of the value of a year's production of honey in the United States. While the statement seems to bear a semi-official stamp, yet it is proverbial that reporters often take liberties with figures, and as a rule are inclined to exaggerate rather than under estimate, especially so when anything pertaining to bees is being written up. If allowed to make a guess, I would be inclined to think that in this case there is no exaggeration, although $25,000,000 at a wholesale price—say 7 cents—would represent about 360,000,000 pounds—truly a lot of honey—but divided among 700,000 bee-keepers, it would mean only a little over 500 pounds each.

As to the 150,000,000 pounds waste, I hardly think that claim to be tenable, as I believe there is no question, but that only a very small percentage of the bees in the United States and Canada are run by out-of-date methods. Still, the percentage *may be* much larger than the writer is aware of, yet I know that such is not the case as far as the Province of Ontario is concerned.

Bumble-Bees to the Philippines.

From the same paper I clip the following, relative to the sending of bumble-bees to the Philippine Islands:

"The Indiana bees recently shipped to the Philippine Islands by the Bureau of Entomology at Washington for the purpose of fertilizing clover in that country, were packed in small refrigerator baskets and placed in cold storage as soon as caught. They will be kept in cold storage until they arrive in the Philippines. Thus they were put to sleep in Indiana and will wake up in Manila."

Earlier in the season the writer noticed the Government's intention of shipping these bees, and quite often since, have I wondered as to the success of the venture. Of course, it is too soon to know as to the benefit the bees will be to the clover, but judging from New Zealand's experience, there is not much likelihood of any disappointment. As is well known, previous to introducing bumble-bees into New Zealand, it was impossible to raise any clover seed, but now, thanks to the bees' usefulness as pollinators, that country can produce seed equal to *any* in the world.

Carniolan Bees.

Perhaps no other prominent writer on apiculture has given the Carniolan race of bees as bad a name as has G. M. Doolittle at different times. He even condemns them as being slow to build up in strength for the honey-flow, and if there is any particular time when these bees "shine," more than at other times, it is in the matter of building up strong in the early spring, regardless of weather conditions. While I have met quite a few extensive apiarists, who did not like the Carniolans in some respects, yet all were a unit in agreeing that for building up in the spring they were without an equal. But according to Mr. Doolittle's experience, these bees have not a single redeeming trait, and are "no good" in the strictest sense of the phrase.

Having for quite a few years past, handled with pleasure and profit, a goodly number of Carniolans and their crosses, and knowing Mr. Doolittle's opinions of them, I naturally concluded that our Borodino friend had something out of the ordinary in Italians, for, be it understood, I have had at the same time, Italians from some of America's best queen-breeders, in the same yards with the Carniolans. However, this opinion of mine received a rude jolt, when reading, on page 751, what Mr. Doolittle has to say relative to how his bees acted during the very trying spring of 1907. He says:

"The bees came out of the cellar in fine condition, as good as I ever knew them to do, but after a few warm days it turned cold, and it kept that way till near the middle of June, so that on June 10—at a time when the hives should have been full of bees and brood—there was *not a single colony that was as good as it was the day it came from the cellar,* while many colonies were not half as good." (Italics mine).

We are somewhat further north than Borodino, and I believe all Ontario bee-keepers will bear testimony that our spring weather was literally as described by Mr. Doolittle; in fact, it was impossible to get a day fit to open hives, before the month of June. The result was that when a few fine days came in apple-bloom, which was abnormally late, when we started to clip the queens, we found about one-third of the colonies with queen-cells started, and fully three-fourths of the colonies literally *jammed* with brood and bees; and this in hives equal in capacity, to from 12 to 16 Langstroth frames. Instead of doubling up weak colonies, it was a case of heading off swarming by forming nuclei, and a number of these same nuclei were in grand condition for the honey-flow.

Now all the attention these bees had received throughout all the cold spring weather was simply being left warmly packed, with the knowledge that they all had an abundance of stores to draw upon. Although there were only about half a dozen days that pollen came in, yet the great quantity of honey that each colony had, was literally turned into brood and young bees before fruit-bloom came on.

But nearly all these colonies had a dash of Carniolan blood in their make-up. Nor was my own experience any exception, for in visiting a great number of apiaries on inspection work, whenever I found any Carniolans the fact would be attested to by colonies overrunning with bees. No, I do not sell queens, but if such were the case, I would *insist on giving* a dozen to Mr. Doolittle to show him what he has missed in the past.

By giving such expert attention, as Mr. Doolittle is so exceedingly well qualified to do, he was able to get from each colony run for comb honey an average of 61 pounds—this after doubling up and otherwise manipulating a lot of bees that by his own account were in a miserable condition to take advantage of a honey-flow. One can not help but wonder, what *might* have been the yield, if his bees had *been at least part Carniolans,* and at the beginning of fruit-bloom, boiling over, and with "coats off," ready for anything that might come along.

Age of Queens and Superseding

BY C. P. DADANT.

There has been considerable discussion, from time to time, regarding the length of life of queens, and the advisability of superseding them artificially before they become too old. Some recommend annual requeening, others at the end of 2 years, others at 3, and others still affirm that the bees attend to this matter properly.

The purpose of this article is to examine the different methods and opinions of noted writers, which will help in drawing conclusions.

To get a very safe statement from writers on bee-culture, it is best to go to the text-books. Articles written for the bee-papers give many new things but there is less guarded thought in contributions to the press than in books, for the reason that the writers of books are aware of the permanency of such works, and read and re-read their statements before allowing them to go out of their hands. Contributors to the papers, on the other hand, are apt to launch assertions that may prove incorrect. We see it daily. A very good instance of it is to be found in one of our bee-papers for January. A writer having stated that beeswax to be digested must "melt in the stomach," the editor, who is one of our brightest men, corrected him by saying that beeswax melts at about 130 degrees, which is much higher than the temperature of the stomach. The fact is, that it is a poor grade of paraffin which melts at about 130 degrees, and that pure beeswax does not melt below 144, and is

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still less liable to "melt in the stomach." The reader will readily comprehend that it is safer to go to the books than to thus hurriedly-written contributions for our information, especially on the subject of "queens," which has been the most important in the natural history of the honey-bee.

Looking through different leading works on bees of modern times, in different countries, we find the following opinions on the age and supersedure of queens:

GERMAN.—Dzierzon says: "The queen lives on an average 4 years. I once had a queen 5 years old which was still remarkably vigorous."

ENGLISH.—Cowan: "The queen may lay for 4 or 5 years, but her fertility decreases in proportion to the number of eggs she lays. . . . Her fertility decreases after the second year."

Cheshire: "The queen may attain the ripe old age of 4 or 5 years."

ITALIAN.—Doctor Dubini: "The case is not rare of bees substituting spontaneously a young queen for an old or imperfect queen, rearing the new one from eggs laid by the old one. Neither do they kill her. Either she dies before the young one is reared, or continues to live side by side with the other."

FRENCH.—DeLayens and Bonnier: "Queens may live up to 4 and 5 years. A queen will live longer in a small hive where her laying capacity is limited. . . . . When her fecundity decreases the bees usually replace her by rearing queen-cells. The old queen is thus superseded by a younger one."

AMERICAN.—Langstroth: "The queen usually dies in her fourth year, though she has been known to live longer. . . . . Queens sometimes die of disease or old age when there is no brood to supply their loss. Few, however, perish under such circumstances, for either the bees build royal cells, aware of their approaching end, or they die so suddenly as to leave young brood behind."

Quinby and L. C. Root: "Do not keep a queen longer than 3 years. Ever have an eye to the queen, and if she becomes deficient in any way, let her place be supplied by a new one."

A. J. Cook: "It is not uncommon for her to attain the age of 3 years in the full possession of her powers; while queens have been known to do good work for 5 years. The workers usually supersede her."

Doolittle speaks of the superseding of queens as "one of Nature's plans," and, speaking of a queen reared by the bees to replace her mother, says: "Had I not opened this hive for a month at this time, I would never have known that a change had taken place, as regards the queen."

C. C. Miller in "A Year Among the Bees": "Some queens do excellent work in their third year, and in rare cases in their fourth. If quite old they will be pretty surely superseded by the bees about the close of the harvest. . . Many more queens are superseded after a good harvest."

The same writer, in "Forty Years Among the Bees," published 17 years later, says: "I have had good queens 3 and 4 years old, but as a rule I suspect better results might be had not to keep them so long."

Root, in the "A B C of Bee-Culture": "Some queens die, seemingly of old age, the second season, but generally they live through the second or third, and we had them lay very well even during the fourth year. They are seldom profitable after the third year, and the Italians will sometimes have a young queen, 'helping her mother' in her egg-laying duties before she becomes unprofitable."

Summing up all these opinions, we find that queens are, as a rule, good for at least 2 years; that the greater or shorter duration of their fertility depends in part on the capacity of the hive and the number of eggs which they may be induced to lay by encouraging circumstances; and, lastly, that in most cases they are superseded by the bees before their fertility is ended.

From this we will deduce readily, and without much fear of controversy, that the idea of replacing queens every year is preposterous; that they should be allowed at least 2 full seasons, before being replaced. But what about replacing them later?

But here is another question: Queens are like hens and other animals or other insects, they are more or less prolific, and some prove much better than others. It is very probable that there are differences in the contents of the ovaries or of the spermatheca, as well as in their ability to mature eggs and lay them promptly. Every queen-breeder has noticed how quickly some young queens will fill every available space with eggs, keeping their workers on a constant strain to supply the brood with the necessary food, while other queens, reared at the same time, in the same manner, and even sometimes from the same mother, will drag along slowly and never fill as many cells with brood as their retinue would easily nourish. There is a very plain difference in fertility. It is obvious that a queen whose fertility is below average will keep the colony under average for strength, and the probabilities are that there will be but little surplus honey harvested in the colony of which she is the mother. Such a queen should be superseded just as soon as we find out her inferiority. But we must be sure that she is *below average*, for what would be the use of superseding her, if we could not give the bees a better one?

According to several of the writers named above—namely, Cowan, DeLayens and Miller—that queen lives longer which lays less. Miller does not say it in so many words, but he says that there are more queens superseded after good seasons. As queens lay more eggs in good seasons than in bad ones, it is safe to assume that, in his opinion, the superseding of queens after a good season is due to their having been exhausted by increased egg-laying. From this we would conclude that the long-lived queens are the poorest layers. I acknowledge that it would be impossible for me to assert this from personal experience, for I have never had the patience to keep an unprolific queen to see how long she would live. But I did, in a number of instances, preserve queens of very extraordinary prolificness, just as long as they would last, and I can remember at least two cases where the prolificness lasted fully four years, and when I began to think of replacing the queen by a young one, I found, as Doolittle reports, that the bees had been doing it themselves. The men who, like C. C. Miller, clip the wings of their queens, have a very good chance to ascertain when the queen has been changed, and if a closer inspection of the hive was kept, in general, than the average bee-keeper follows, many more cases of natural supersedure would be reported.

I do not believe that there is any doubt about the much greater fertility of some queens than the average. It is very probable that these queens have a greater number of egg-germs in their ovaries, and that these germs are also more enlarged and matured by the agencies of warmth and food than in the case of inferior queens. This brings us to the most important point. Is it not better to keep your most prolific queens as long as they show no signs of failing, and to breed your young queens from such long-lived, prolific queens, rather than requeen, every one, two, or three years, indiscriminately? When you have a queen under average, is it not best to replace her at once and take your chances on the young queen which will very probably prove at least up to average?

If we could, in every instance, or even in a majority of instances, replace our old queens by new ones of whose prolificness we were absolutely sure, there would need be no hesitancy about superseding queens as often as we thought best. But a queen, to be tested for prolificness, must be located in a full colony. If we buy queens, the breeder who furnishes them cannot vouch for their prolificness unles he has so tested them, and they are then valuable to him, and if he understands his business, he will charge you a good price for such queens.

To sum up, I will say that my method has always been to replace inferior queens as soon as I make sure of their inferiority, but in the case of good, average or very prolific queens, I aim to retain them as long as their fertility does not decrease, meanwhile trusting the bees with the task of superseding such queens by some of their own stock if they should notice the decrease of their powers before I do. After all, Doolittle is undoubtedly right when he says that natural supersedure is "one of Nature's plans."

Hamilton, Ill.

Strong Colonies Desirable as Well as Profitable

BY J. E. HAND.

We often hear of colonies of bees becoming too strong in the spring prior to the honey harvest, and it is claimed by some of our best bee-keepers that such colonies do not, as a rule, do as satisfactory work at storing surplus as a medium colony, some even going

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so far as to say that strong colonies are not needed for best results, but, rather, medium colonies that are in the right condition. They do not tell us what constitutes this highly desirable right condition, nor why it is that an extra-strong colony should not be in such a condition as well as a medium one.

It is to be hoped that some of the wise ones will further enlighten us upon this subject or else cease to harp about colonies becoming too strong. One would think this habit was contagious, by the way it is being handed around among the papers of late.

Now, while I can see that a medium colony in a perfectly normal condition might far outstrip an extra-strong one that was thrown out of that condition at the beginning of the honey-flow, yet I think no one will attempt to prove that an extra-strong colony in a perfectly normal condition will not store more surplus honey than a medium one in like condition. I will go farther, and say that the former will often store more than twice as much as the latter, and especially in comb honey production. And why not, since it is *bees* that gather honey?

It is a wonder that some writers don't put this theory into practice, by breaking their colonies up into nuclei in order to have more colonies to gather more honey! This theory was exploded more than 30 years ago, and is a dead issue.

Judging by what has been written upon this subject, one would think it a difficult matter to keep an extra-strong colony in a perfectly normal condition for any considerable length of time prior to the honey harvest. And no doubt this is the reason why so many fail with such colonies. While it requires but little skill to manage a medium colony prior to the honey-flow, it often needs an expert to handle an extra-strong colony and keep it in just as good condition for storing surplus honey as the other. However, with that kind of a man at the helm, such a colony will distance the average one by a full length.

The strange thing about this matter is that no one has ever attempted to explain plain why it is that extra-strong colonies come out behind the smaller ones in the race for honey. Are we to understand by this that there is really no cause for such a seemingly unnatural result, and attribute it to luck?

I have always found such results to be the exception and not the rule; and when such a thing happens, there is always a good cause for it; and that cause is usually a played-out queen. The trouble could undoubtedly have been avoided by requeening the previous season.

The question arises, how are we going to keep these extra-strong colonies from swarming before the honey-flow comes, and thus spoil everything? Since such a thing would be fatal to comb honey production we must give the queen unlimited room, and put on a set of extracting combs to keep the honey out of the brood-chamber; and when the harvest comes with a rush, this mighty army of workers will roll up an amount of surplus far beyond our expectation, and we will cease to fear a strong colony of bees.

My bee-keeping friend, your success in comb-honey production will begin right where you leave off fooling with weak colonies of bees.

In conclusion, keep more bees in each hive, and keep them in a normal condition by requeening each year, and success is sure.

Birmingham, Ohio.

Beginning in Bee-Keeping

BY G. M. DOOLITTLE.

A correspondent writes that he thinks of entering into bee-keeping as he has a high "bee-fever" on, through reading the American Bee Journal which a friend let him have during 1907. He says he does not know exactly whether he is informed enough through his reading to make a success of the undertaking, and asks me to give an article on "beginning in bee-keeping," as he is now a regular subscriber, and believes that such an article will help others as well as himself.

Remembering the articles from the pens of Elisha Gallup and others for beginners, away back in the seventies and eighties, in the American Bee Journal, which did me so much good when I was a beginner, I will try to give a few thoughts on this matter, hoping they may be of some benefit to others as well as to my correspondent, as he suggests.

A bee-paper is a good thing to take, for any and all who keep bees or are interested in them in any way, but with the paper should go a book on bee-keeping, which should be thoroughly studied so that the first principles of apiculture will be familiar—so familiar that the one reading will *know* whether what he or she reads in the bee-papers is practical or not; for an enthusiast on bees often writes things for publication before he has tested the matter he proclaims sufficiently to know that it is practical. If the beginner is not informed on these first principles in bee-keeping, he is quite apt to "bank" on anything which reads so "catchy" as most bee-theories do, and thus he is led off on a "wild goose chase," which generally results in our beginner becoming disgusted, and proclaiming that bee-keeping does not pay; also resulting in the losing of all he has invested in the undertaking.

For this reason I always advise the careful and studious reading of one, at least, of the many good text-books we have on bees; before any bees are purchased, or any great sum of money is put into the business. In fact, I would say, don't pay out more than $40 or $50 to get a start, including bees, hives, books, papers, and everything. If you do not buy more than 3 or 4 colonies, $50 should cover all the expenses necessary for a start for anybody that has little else to start with save a "bee-fever," and if that is the situation, 4 colonies is certainly *all* the bees that should be bought, while 2 colonies would be sufficient, that being the number I started with in the spring of 1869, and from which grew my apiary of 300 colonies of the middle eighties.

Then, contrary to what I heard once advocated at a National Bee-Keepers' Convention, I would advise the beginner to make his own hives, etc., all except the sections, and these I would buy in the flat. Of course, you will want a sample hive to work from, unless the hives in which you buy your bees are to your liking. If so, all you have to do is to make others like them. And why do I advise the making of your hives at first? That you may really know what a hive costs, and become convinced that the smooth and "catchy" appearance of any hive or fixture does not 'count" toward practical apiculture.

My first hives were made of rough hemlock lumber, just as it came from the sawmill, and, strange to say, many of these hives were in good, practical shape, long after some of those "fancy" hives which I was led to buy through the "smooth tongues" of supply dealers, had passed out of existence.

Then, this making of your own supplies at the start will "rivet" you with a practical love for your business, that will count toward *success* in all the years to come.

Do not become "crazy" over the puffs of wares by those having said wares for sale, and pay out your hard-earned dollars (earned in some other business), more than just to get a start. Make your bees and yourself self-sustaining, and after the first start do not pay out anything more than what the bees bring you in, always remembering that if you cannot make 4 colonies pay, you cannot 400 or 4000. By starting with a few, these few will increase as fast as your knowledge will, and by the time you have the 4000 you will be able to handle the same properly to a complete success, while had you started with 400 or 4000 *failure* would have almost surely been the word written at the end of your undertaking.

Then, should it so happen that you found yourself unfitted for bee-keeping with a small start, you would have the consolation of knowing that you had lost but from $40 to $50, instead of $400 to $500, or perhaps as many thousands, as some do.

Also remember, if you wish to succeed, you must look after your bees. If any person expects to realize a large income from his bees, and scarcely ever look after their condition—simply hive them and put on the sections—he will find himself greatly mistaken. Not that the whole time must be spent in overhauling the frames, or "fussing" with the bees but enough time *must* be spent *to know* that they are in a good, thrifty condition at all times.

Then you want a knowledge of your location. Spend quite a little of your time the first 2 or 3 years out in the fields and woods, following your bees to the flowers, or finding your bees on the flowers, and knowing what they are doing there, whether gathering pollen or honey, or perhaps propolis, till you are familiar with all the plants and trees which give your bees anything of value, and especially those from which a surplus of nectar is obtained; also the average time of their coming into bloom. Having found out these things, then make all the minor bloom con-

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tribute toward bringing the bees up to their maximum strength as to numbers and a desire to store a surplus, just at the time that your location brings the surplus-nectar bearing flowers into bloom in their greatest profusion. By so doing you will bring your "field" and your bees together, so that they will roll in a *great, big success* for you; while, if you fail just here, no great success can be obtained, no matter how profuse the nectar-secretion at the time of the minimum number of bees in your colonies, or how maximum the strength of your colonies, if that strength comes when the nectar-producing flowers are gone, or before they come.

There are lots of other things which tend toward the success or failure of a beginner, but the above are sufficient for the "better digestion at one sitting," as well as before the underlying foundation on which to build a "permanent and successful structure," along the line of apiculture

Borodino, N. Y.

Aphididae or Plant Lice

BY PROF. A. J. COOK.

There are several reasons why bee-keepers should be interested to learn about the aphids. Their natural history is unique and surprising, indeed; their destructiveness is often alarming, as in cases of the "green fly" on grain last year in Kansas. Often, too, this injury is to our honey-plants, as one of the largest of the aphids in the United States works on the basswood.

Again, the aphids secrete honey-dew, which is of the same nature as honey, as it is composed of reducing sugar, and is excellent, and, as it need not to be digested, is probably superior as a source of honey. I have known the bees to gather much of the honey-dew from the Lachness that works on evergreens in the East, and the honey was of very superior quality. I doubt if there is any better honey than that which comes from this honey-dew from some of these aphids.

NATURAL HISTORY OF APHIDS.

The life history of plant-lice is as interesting as it is exceptional. In the fall, a little earlier than this (Dec. 19), as the cold comes on, there appear the only males that are ever to be found. Now, too, come the normal females. These mate and lay their eggs, which are not many in number, and so the insects pass the winter as eggs. In the spring, as the foliage opens, the eggs hatch and only agamic females come from them. That is, these females produce without males, and their progeny are, like our drone-bees, the result of parthenogenesis. There may be a dozen or more generations of these agamic females during the summer. These do not lay eggs, as do most insects, but the young are born alive—that is, the eggs hatch within the parent louse.

There is one more peculiarity of these lice, and that is, they are dimorphic; that is, they appear in two forms in the season of work. The most of them are wingless, but occasionally they appear with wings and are able to fly from their old host-plants to a new pasture-field. This is of great service to the insects, as they are a serious menace to the host-plants that give them home and food, and soon the plants would die, and they be starved, except that they are able to fly to other host-plants. This point should be remembered as it suggests a way to destroy these plant-lice.

There is one thing that is pleasing regarding these devastating pests, and that is, they have many enemies. This is why we often find that though they may be very common in the early season, as they increase with enormous rapidity, and later often in a few days they seem to melt away as though struck by the very bosom of destruction. This is doubtless due to the fact that they have numerous foes among birds and other insects. The fact that they abound in such numbers so that they crowd the plants that harbor and feed them, makes them a very bountiful source of food to any animal that takes to such diet. Here in California, roses and ivy may be literally covered with aphids in April, and in two or three weeks they are nearly al gone so that it is difficult to find one of them. The cause of this rapid taking off is that a braconid fly—a minute parasite—attacks them, and it increases even faster than the lice; and so they melt away as by fire. This suggests a possible way to rid a place of these pests. It is often easy to introduce the parasites, from some other locality where they abound, and as these "work for nothing and board themselves," it is a cheap way to fight the aphids.

The plant-lice are so abundant, and crowd in such profusion to every part of the plant, on the under side of the leaves as well as above, that it is very difficult to destroy them by artificial means. The coal-oil emulsions will kill the lice and not destroy plants, and yet it is impossible to apply them in many cases of attack, such as that of the grain aphis and the melon plant-lice. Tobacco smoke is deadly to them, but this must be confined as in greenhouses, and so is rarely practicable to use.

The fact that these aphids often have two or three host-plants which they attack exclusively, gives a further remedy that may often be used to good purpose. The potato plant-louse sometimes destroys to the tune of millions in our country. The potatoes are often harvested early, and so the aphids must hie to other plants or die. It is found that they use chickweed and peas as host-plants after the potato harvest. If, then, we see to it that these plants are not in the region of the potato-fields, we will starve out the pestiferous plant-lice. In our rich, low valleys near the Salton Sea, excellent melons and cantelopes are grown very easily, and as they come very early they are grown at a surprising profit. There is one handicap on this industry — the melon plant-lice are often a serious scourge to the melon-growers. Here the harvest is over early in the season. when the vines could all be plowed under, in preparation for a later crop. In this case it would be a wise policy to discover the later host-plants of these aphids, in the hope to practice clean culture, and so banish the pests.

THE SLUG A BORER.

I suppose all our readers are acquainted with the slugs. They are really shelless snails. Indeed, they once had shells, but have lost them in their development history. It is also well known that the snails and slugs are fond of damp, and will not sojourn where the earth is dry and arid. Again, the slugs and snails feed on vegetable matter wholly. Of late I have word that slugs are boring into oranges. In this case the fruit must lie near the earth. In some cases the slugs have crawled up as far as 12 or 18 inches, and have bored into fruit that distance from the ground. I was appealed to help by advice and suggestion in this case. I called attention to the fact of the slug's love of moisture, and suggested that the trees were headed so low that a condition very favorable to the slugs were secured. Pruning away the low branches and letting in the sun and air, would drive the slugs away and save the fruit. And do we wish to grow our fruit on the ground, any way?

We cannot know too well the life history and habits of all our animal associates, for with such knowledge we will often know how to steer clear of harm, that also might work us serious injury.

Claremont, Calif.

Season of 1907—Feeding Sugar Syrup—A New Location

BY F. L. DAY.

The past season was a poor one for honey in Northern Minnesota. The spring was fully a month later than some of those of recent years. This did not make any great difference with my own bees, for they were in excellent condition. Forty-one colonies were taken from the cellar, 39 being in apparent good condition. One of the others was put over a strong colony. The weak one had a queen which had begun to lay some. I used 2 excluders and a wire screen, also, for the first 3 days. But the queen of the weak colony disappeared, and the workers joined those of the strong colony, without any fighting. The other colony which died was seemingly all right at first, but soon dwindled away in spite of anything I could do.

My 39 colonies were increased to 61 by the nucleus plan, which suits me the best of any for making increase. I had formerly taken the queen and 2 or 3-frame nuclei of brood and bees from strong colonies to place in a new hive. Then 9 or 10 days later I would divide the remaining frames of brood and bees so as to form 2 or 3 more nuclei and still leave 1 or 2 frames of brood in the old hive. The nuclei were then left to rear their own queens from the cells given them with the brood, and later to build up as best they could during the season. Good results were obtained. The nuclei nearly always built up strong, and some of them gave a little surplus.

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The old colonies thus divided gave more total surplus than an equal number of others not divided. But many of the nuclei became strong too late in the season to give any surplus that year. This year (1907) I made two improvements. One was to have plenty of laying queens for all nuclei, and the other was to give each nucleus 2 additional frames of hatching brood about 3 weeks after forming.

About March 1st I made arrangements with a prominent queen-breeder to ship me 22 untested Italian queens just when I should need them. They were sent in 3 lots, and all arrived in good shape. Two frames of brood and bees and 1 frame of honey and bees were taken to form each nucleus. The cage containing queen and attendants was put on top of the brood-frames, with the cardboard removed from the candy. The bees were then confined 3 or 4 days.

After 5 days all nuclei were examined. Most of the queens were then out on the combs and laying a little. A few were still in the cages. Twenty of the 22 queens were thus successfully introduced. One died 3 weeks later, but the other 19 proved to be very prolific. Most of them were soon filling their 10 brood frames in good shape. Some of these nuclei stored as high as 40 to 50 pounds of surplus honey before July 20. Our best flow usually comes after that time, being from basswood and the latter end of white clover. But the past season there was no surplus secured from any source after July 20. Basswood blossomed fairly well, and I never saw bees thicker on the trees. Still no surplus was obtained. This left me with only 40 pounds of clover honey per colony or less than half of a fair crop. There was no fall flow, either. I had to feed 870 pounds of sugar, or 14 pounds per colony.

Last spring, Dr. Miller, in speaking of my feeding thin sugar syrup *after Sept. 20,* expressed doubt as to how much I really fed per colony. My feeders hold 8 or 9 quarts each. For a strong colony entirely destitute of stores I have often filled one of these feeders twice, making fully 16 quarts of half sugar and half water. This quantity has been stored in the combs and nearly all sealed over in 2 or 3 weeks later. In general, I have fed from 4 to 16 quarts per colony, nearly all after Sept. 20.

In the fall of 1906 I fed over 30 of my 43 colonies from 4 to 14 quarts, besides all colonies having a chance at what I feed outdoors daily to keep the bees good-natured. My bees as thus fed winter well. In 5 winters taken together, I have lost only 3 colonies in the cellar and about 6 after taking out in the spring. A real weakling is a rare novelty.

The principal reason why I feed so late is that from 6 to 9 of the 10 brood-frames in each hive are usually full of brood until about the middle of September. The past fall I fed every one of my 6 colonies from 6 to 13 quarts of thin syrup, between September 15 and October, and the only anxiety I have in the matter is that some did not receive enough to suit me. But I would not advise so late feeding where it can be avoided.

During the last week in October I moved my bees, shop, etc., from the place where I had kept them six seasons, to a new location one-half mile distant. The bees were shut in the hives 2 days before moving. They were moved on a cool, frosty morning. The 5-16 inch entrance the width of the hive gave ample ventilation to all colonies. Five colonies were let out the same day, but the rest were kept confined 3 days more. None of either lot returned to the old location.

The new location is a clearing in a dense forest, with just room for the hives, shop, bee-cellar, dwelling-house, etc. As Mr. Hasty once said in speaking of such a woodland location, "I see swarms on my glasses." I expect to see them on the trees, too. But I intend to make the clearing larger this winter, and by having all laying queens clipped as usual, I expect to be master of the situation.

We had mild weather all the past fall. Nov. 22, 23 and 24 the bees flew as in mid-summer. I put mine in the cellar Nov. 30.

Detroit, Minn.

Are a Queen's Drones Affected By Her Mating?

BY T. W. LIVINGSTON.

I have read Mr. E. V. Pagan's article, on page 717 (1907), and wish to say in reply that with my little "flourish," or whatever it may be called, I did not intend to convey the idea that I really meant to explode the theory in question in the minds of all, but merely to ignite the slow-match that would cause it to explode of its own absurdity in the minds of all reasoning people that would take the trouble to examine carefully the facts of the case. I am well aware that there is too much green material in the minds of some to permit the kind of explosion I have in mind.

Now, I think Mr. Pagan is too exacting in his demands for proof, for it would obviously require that a great number of black bees had been moved near my apiary the second year to have produced the results recorded in my article on page 687, for surely the vastly greater number of Italian drones in my yard would have increased the liability of my queens mating purely to a corresponding degree so that the presence of a large number of drones from mismated queens in my yard, and they being impure, is the only thing that will account for the results that followed. I can assure him that no great change had taken place in my surroundings with regard to black bees in my vicinity; besides, I had other evidences that the mismating came from my own yard. Read again my article.

I am well aware of how the theory that a queen's drones are unaffected by her mating is supported, and I am not disputing the well-known facts, nor the testimony of the microscopists that find spermatozoa in the eggs laid in worker-cells, but not in those laid in drone-cells; but there are certain facts that I can perceive without any microscope, that have quite as great a bearing on the case. I can *see* that pure Italian drones, however dark, are different in appearance from pure black drones. Also that the drones of a pure Italian queen that has mated with a black drone do show—some of them—the color and general appearance of the black drone. Likewise, a black or Caucasian queen mated with an Italian drone will produce some (and sometimes many) drones with Italian coloring. Now, how does that color get there, and what does it signify? If color shows the blood or race at all, how can drones be pure that show the color of another race from that of their mother?

I long ago observed that the mismated queens turned darker in color after a time than their purely-mated sisters, so that I am sure that if a lot of purely-mated queens are compared with a lot of mismated queens *reared from the same mother,* the difference in color will be plainly apparent.

I am not yet claiming that a queen's drones are as *much* affected by her mating as her workers, but that they are just as *surely* affected, and am still "cock-sure" of my ability to demonstrate it.

I thank Mr. Pagan for his reply to my article, and would like to hear from him again on the subject, or from any others that feel interested in getting at the truth of the matter. It would be a very convenient thing for us if that theory were true, and I have no object in combatting it except that to me it is manifestly untrue, and I believe it is best for us to know the facts, and govern ourselves accordingly. My experience indicates that queens do not so often mate with drones from a distance as is generally supposed, but the mismating comes most frequently from drones in our own apiary. I once had my apiary of about 150 colonies of Italians about 1½ miles from an apiary of about 60 colonies of blacks. I used comb foundation and controlled drone-rearing, while my neighbor did neither, so that his bees produced probably twice as many drones as mine, yet I did not have more than 5 percent of my queens to mismate. So I would say, keep none but drones from purely-mated queens in your own apiary, and your troubles with mismating will be very much less.

Leslie, Ga.

"Beneath the Old Shade Tree"

This is composed by E. A. Reynolds, and is a most beautiful song and chorus which should find its way into every home where there is a piano or organ. By special arrangements with the publishers, our readers will receive a copy of the above song, postpaid, by sending 6 cents in postage stamps to THE GLOBE MUSIC CO., 17 West 28th Street, New York, N. Y.

Apiarian Pictures

We would be glad to have those who can do so, send us pictures of bee-yards, or of anything else that would be of interest along the line of bee-keeping.

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Report of the Chicago-Northwestern Bee-Keepers' Convention.

The 17th annual convention of the Chicago-Northwestern Bee-Keepers' Association was held in the Briggs House, Chicago, Dec. 5 and 6, 1907, with Pres. George W. York in the chair.

Mr. Dadant, Mr. Kannenberg and Dr. Bohrer were appointed as an Auditing Committee.

Dr. Miller, Mr. Kimmey, and Miss Candler were appointed a Committee on Memorials.

Cooking Sugar Syrup for Feeding Bees.

"Is syrup best cooked for bees?"

R. L. Taylor said not to cook it if fed early enough.

The question arose as to whether to use a double cooker. Some said "No," but others said, "Yes, if the one who does the cooking is careless, but usually it is not necessary."

Mr. Taylor advised feeding earlier, the food not heated, when the bees will digest it. Dr. Miller said if fed late, feed warm and thick, but it is much preferred to feed early, as the bees will work it over better.

E. J. Baxter said it was not necessary to have it boil at all.

Dr. G. Bohrer had fed bees 40 years ago, with warm feed. He claimed boiling was not necessary. He fills shallow combs in a super with syrup, and the bees carry it down, and seem to do well.

Sugar Candy for Bees.

Dr. Bohrer said scorching the feed rendered it poisonous to bees.

Dr. C. C. Miller said creamed candy will stay soft.

Mr. Taylor asserted that if soft the bees will use it all, and there will be no loss, while if hard and grainy there will be a waste.

Mr. Dadant advised pouring candy over coarse paper and then break it up before too hard.

Dr. Miller asked Mr. Dadant why they had made no candy for a long time. Mr. Dadant replied that the bees had not needed very much lately. Bees go to the water-trough a great deal when fed on candy. Candy is an emergency food.

Dr. Miller said that he had fed honey to the bees in winter, and prefers it to candy.

Protecting Bees for Winter.

Mr. Wm. M. Whitney stated that he winters bees out-doors, with double-wall hives, and planer shavings between.

Secretary H. F. Moore said he uses cork-dust in an empty body set over the hive.

Mr. Baxter declared the Dadant hive a success always; with a mat over the top of the hive, and double packing of leaves all around.

Dr. Miller said that paper has been a success usually, but a Canadian claimed it was always a failure with him and all his acquaintances.

J. C. Wheeler said leaves had been a failure with him. He thinks the sunlight helps the bees.

Mr. Whitney told the convention that he would keep the packing on during May in his locality (Southern Wisconsin), with the double-walled hives. He said that bees in double-walled hives build up sooner in the spring than those in single-walled hives, because the former are warm all the time, but the single-walled hive gets too cool part of the time.

Mr. Taylor said that he had made a careful experiment with a number of swarms. He set the hives close together and surrounded them with boards and then packed with sawdust between. He left them until June, and found that the bees not protected had wintered the best. The main point is to have sound stores of honey.

Mr. Baxter claimed that it is not the stores. In 1884 and 1885 he had a very severe winter. He had 3 yards.

Mr. Taylor said he winters bees altogether in the cellar; that those in single-walled hives do better out-doors than in chaff hives. Sound stores are the most important thing.

Mr. Whitney asked whether fall honey is bad.

Mr. Taylor replied that fall honey is poor and thin, and mixed with pollen.

Dr. Miller said locality is very important.

Mr. Dadant also said that locality is very important. He said that he winters bees out-of-doors. The weather in his locality is warmer than Northern Illinois. Outdoor wintering has been better 4 out of 5 years.

Mr. Whitney said that Mr. Taylor should use planer-shavings instead of sawdust, out-doors.

Cellar-Wintering of Bees.

Dr. Miller asserted that bees should be put into the cellar the day before the last day that is fit for them to fly in the fall.

Franklin Wilcox said he has put his bees into the cellar from the 10th to the 25th of November. He has carried them into the cellar with a falling temperature.

Mr. Taylor wants no breeding in the cellar. Rearing of brood runs down the strength of the bees. He said he put his bees into the cellar Nov. 21, on a cloudy day, and leaves the bottom-boards on the summer stands.

Dr. Miller declared a flight is very necessary before putting bees into the cellar.

Mr. Wilcox said a flight is very necessary immediately before putting them into the cellar.

Twenty reported that bees breed in February.

Mr. Dadant agreed with this.

Dr. Bohrer said that the cellar should be as dark as a dungeon all the time.

Dr. Miller said his cellar is light most of the time. He believes that air and light together, and ventilation are necessary. There is a furnace in his cellar.

Mr. Wheeler has had experience with bees in the cellar with no furnace, and also with a furnace. He claims bees winter well even where combs are moldy.

Supers for Comb Honey.

Dr. Miller claims that T-supers are best for comb honey.

Mr. Taylor says wide frames are best.

It was decided that the secretary arrange to have supers of different sorts exhibited at the next annual meeting, at an expense not to exceed $1.00 each.

On motion it was ordered that the Chicago-Northwestern Bee-Keepers' Association join the National Bee-Keepers' Association in a body, at 50 cents per member.

The following officers were elected for the ensuing year: President, George W. York, of Chicago; Vice-President, Miss Emma M. Wilson, of Marengo; and Secretary-Treasurer, Herman F. Moore, of Park Ridge, Ill.

Best Honey-Section to Use.

Mr. Taylor said the 4-piece section is the best because made of poplar. It is open clear across the top and bottom. He would use one-piece sections if they were open clear across.

Dr. Miller used to use 4-piece sections, but now uses one-piece sections, and prefers them.

In the discussion that followed it was claimed by some that you don't break so many 4-piece sections; that you can make the 4-piece more easily, and that you can use any kind of wood in the 4-piece sections.

Mr. Whitney says one-piece sections spring out of "true" badly, for the groove is too tight when folded.

Mr. Taylor said there is a machine for putting up the 4-piece sections, and he will give any one the address of the maker.

Dr. Miller said he will hold onto the one-piece sections as long as he can get them. He claims that wetting the back of the grooves toughens them.

Mr. Gilbert agreed with Dr. Miller.

Dr. Miller told how he wets sections with a kettle of hot water, wetting 500 at a time, in the crate that they are packed in.

Theo. Fluegge said that he takes out the sections from the crate, stacks them upon holders, and pours water from a kettle on the back of the grooves.

Why Do Bees Ball Queens?

Dr. Miller said the bees ball a queen to protect her.

Mr. Taylor said they ball a queen to keep her from getting away, as when a strange queen is introduced.

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Mr. Whitney said that on introducing a queen he found a queen balled.

Dr. Bohrer declared that balling a queen is one of the puzzles to him. He thinks it is an indication of a dislike for the queen.

Mr. Wheeler said that stray bees dislike the queen and ball her.

Mr. Dadant asserted that bees are upset by some unusual occurrences when they ball the queen.

Dr. Miller declared that bees never sting a queen to death unless the human interferes. Cold smoke blown on the ball of bees will release a queen at once.

M. M. Baldridge said that bees ball the queen because they think she is a strange queen, by her actions. To prevent balling the queen always smoke the bees, or rap on the hive to cause them to fill themselves with honey, when introducing her. A young and active queen in spring is apt to be balled, owing to her running about in the hive, frightened by the opening of the hive.

Mr. Dadant said that bees seldom make a practice of balling queens.

Mr. Taylor said that bees must not be fussed with too much, and then not much balling will result.

Renewing Queens.

A majority do not renew queens at all.

Mr. Dadant advised replacing queens when they become inferior. He mentioned a queen 5 years old, and still vigorous.

Dr. Bohrer agreed with Mr. Dadant.

Mr. Whitney claimed that bees would not always supersede a queen at the best time.

Dr. Miller said it may be an advantage to supersede queens and breed from stock that is long-lived.

Mr. Dadant declared that workers wear themselves out, and the best bees live the shortest time.

Mr. Wheeler said we are not so dependent upon the long life of the queen.

Dr. Bohrer then spoke on whether more than one queen in the colony is useful. He said that one queen lays all the eggs a colony can warm and hatch.

W. B. Chapman said that 2 queens cause no swarming, according to Mr. Alexander.

Mr. Whitney related that he tried to use 2 queens in the hive. He got no surplus in the double hive, and one queen was killed during the winter.

Mr. Taylor thought it was hardly to be believed that Mr. Alexander runs 2 queens in one hive successfully.

Mr. Whitney mentioned a case where 5 colonies were in one box—one in each corner and one in the center—and they worked all summer harmoniously.

Mr. Dadant has found 2 queens in one hive occasionally, even on the same comb.

Mr. Wheeler said he had seen the same thing.

Dr. Miller stated that it is the rule that when the queen is superseded, the mother and daughter are together in the hive. He mentioned cases where bees had got tired of trying to supersede the queen.

Mr. Kimmey gave instances of the same thing.

(*Continued next month*)

By W. A. PRYAL, Alden Station, Oakland, Calif.

An Open Winter.

The winter so far has been an open one; while the atmosphere has, at times, appeared a trifle colder, the fact is that it has been mild. Tender vegetation in this portion of the State has not been damaged by the frosts. I have seen tomato plants in this county to-day that are yet green and nice—something almost unusual at the end of January. We may have a touch of a cold snap in February, but it is doubtful if we have any real cold weather this winter. I have noticed for years that if we do not have what we might call a "killing frost" by the end of the last week in January, it is pretty certain the winter will be a mild one.

The rainfall for this portion of the State has been a little below normal. The past fortnight has been rather a rainy one, and the prospects at this writing are that another storm is brewing, so it is safe to predict that our rainfall for the season will be up to, if not above, the average. Owing to the past two years being fairly good ones from an agricultural point of view, it is not necessary that this year's rains be excessive. In the southern portion of the State, as far as I am able to learn, the rainfall has been short. Already prayers for rain have been offered in the churches there. I believe seasonable rains will come, and with warm weather during the nectar-secreting time, the bees will wing in the sweets, so that later the bee-man and his gasoline-driven honey-extractor will take care of the crop.

A Yellow Cytisus.

In the January number I mentioned that there is only the white variety of *Cytisus proliferus*, and that Prof. Bailey notices no other. Having called Prof. Wickson's attention to the fact that the University of Canifornia labels its specimens of this shrub *Cytisus proliferous albus*, that gentleman writes me to this effect:

"We have always written *Albus* in connection with *Cytisus proliferous*, because there is a yellow variety which we received under the name *flavus*. The Albus is the *Tagasaste*, or tree alfalfa. It is quite possible that the botanists have given the two colors different specific names."

Mercy Like Chunk Honey—It's Good.

Poor old Billy Shakespeare has caused our dear old friend, Dr. C. C. Miller, to believe that "the quality of mercy" lays in the comb. (He did not say "lay" for the reason, I suppose, that the queen lays in the comb (but he used "is" instead.)

No, Doctor, I think "the quality of mercy" may have been strained, but it is now "candied"—just the nicest and sweetest way it could be. The Bard of Avon was not up on modern bee-keeping, Doctor, or he would have taken the trouble to say that mercy might be run through a strainer or even an extractor and come out better than before. In such shape it might be soon found in great, big "chunks" of candied honey. Just think! Yum, yum!

The California Bee.

So different is the climate of California from that of any other place in the world, that animal and plant life here seems to be different, too. By careful breeding it is relatively an easy matter to produce offspring that is better than the parent. The State is becoming noted for its new creations—for its new and worthy varieties of plants and flowers. Of recent years a sort of combination of interests have sought to give all the credit for work in plant-breeding to one man, namely: Luther Burbank. The gentleman named has become a specialist in this line, and successful results must necessarily follow, though he is not the pioneer nor the only investigator in that direction in the State. There were new varieties of fruits, flowers and vegetables originated in California before Mr. Burbank came to the State, and he is not the only one to have produced hybrids that have attracted attention. But it is not of these producers of new kinds and varieties of plant-life that I intended to write of.

Much has been done in the way of breeding finer grades of domestic animals. The fame of our fine horses have encircled the globe. Those who have systematically bred cattle, swine and poultry have been meeting with satisfactory results. But what have we been doing in the bee line? Echo answers from the valleys, canyons and mountain sides—*nothing*. And yet the field for improvement is a large one. Climate, coupled with scientific work, will surely bring forth a bee that may be better than any now known race. I believe the old line of bees that were brought to this State a half-century ago, has been so acclimated and so mixed with the blood of Italians, that what we now call "blacks" is an entirely different bee from the so-called blacks of the East. Our "blacks" are not of a color that warrants them being so called; rather, they are a brown bee; and as large, generally, as the best Italians. I have had some colonies of them that were superior to any Italians I ever had. Probably if I bred

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up a strain of those bees, I should have obtained a bee that would have been a record-breaker. This is a line of work the Government might well take up at its experimental station at Chico, in the northern portion of the State. I believe I wrote briefly on this matter some years ago. I am sure it would pay any one who has the time and inclination to make a study of bee-breeding.

Some years ago a Mr. D. H. Johnson, of San Diego County (this State) came out strongly in print in favor of the common bee as a honey-gatherer. He held that the black bees and their crosses, gathered fully as much honey as the most thoroughbred races; that the honey was fully as fine in quality, and that "no bee on earth builds such delicate combs and caps the honey with more virgin whiteness than the poor, despised black bee." Others have so held, too.

While the Italians have some good points, the blacks, when as carefully cultured as the others, will be as good honey-gatherers; they will commence to breed earlier in the season, and there is no doubt about their being more immaculate cappers of honey. I believe the proclivity they have of rushing to the lowest extremity of a comb when they are undergoing examination by the apiarist, can be bred out of them.

Who will give us *Apis Californica*, to put it somewhat unscientifically?

A Kink in Heating Honey.

The following is from The Bee-Keepers' Review, page 338: "The heating of honey prevents granuation, and I believe that the higher the temperature to which the honey is brought, the more effective the treatment; and, it is very important to add, the greater the danger of injury to the honey. The length of time that the heat is continued also has a bearing upon the danger of injury. Keeping these ideas in view, Mr. Wm. A. Selser heats his honey to a higher temperature than is usually done (168 degrees), bottles the honey, and then immediately cools it by immersing the bottles in ice water. The honey is brought to this high temperature by the use of steam heat, and great care must be exercised that the honey be not injured. Two persons are kept constantly busy stirring the honey in the tank; otherwise that next the outside would be ruined before the honey in the center was hot enough. It might be thought that the immersing of bottles of hot honey in ice-water would crack the bottles; so it will, unless a certain ratio is preserved between the temperature of the bottles and the ice-water."

Speed of Bees and Rate of Gathering.

The question is not infrequently raised as to how fast they gather, and any facts tending toward the answer are always of interest. Rev. J. G. Digges, the able editor of the Irish Bee Journal, has made the following valuable contribution toward that end:

"The following experiment carried out at Lough Rynn in 1904, has a certain amount of interest:—Three bees that had delivered up their burdens were taken, one each from hives A, B, and C; they were marked white, red and green, respectively, and were placed in a match-box. The operation was twice repeated, the nine bees being confined in three match-boxes. Then the owner, having set his watch with watches of two friends left at the hives, cycled a mile on a straight road, opened the first match-box and threw out the bees. This he did, at intervals of ten minutes, with the two remaining trios. The time was marked as carefully as possible. The average time for hives A, B, and C were, respectively, 4 minutes, 8 seconds; 5 minutes, 11 seconds; and 3 minutes and 2 seconds; from which it was calculated that the bees of hive C traveled 20 miles an hour, of hive A 15 miles, and of hive B 12 miles an hour. The results cannot be said to be absolutely accurate, but the unfortunate queen of hive C was kept breeding like fury in the following season, and her progeny gave the best results right through to closing down time in October.

"A subsequent series of experiments showed that the bees of colony C occupied an average of 7 minues in collecting the nectar, and 5 minutes in disgorging it and fussing around the hive. Assuming the distance of the supplies to be 1 mile, the load one-fifth of a drop, the proportion of water 50 percent, and the rate of flight as stated above, and making a liberal allowance of 6½ hours per working day, the result of one bee's daily labor proved to be two drops of honey. The honey dealt with was from clover, and when extracted, ripened, and bottled, it weighed ¾ grain per drop. If, therefore, required 4,667 bees working 6½ hours on clover 1 mile distant, to produce 1 lb. of honey. The honey was sold in bulk at 5d. per lb., net return, and the produce of one bee's active labors for one day came out at less than 1,000th part of 1d. Such rough and ready experiments cannot be put forward as in any sense conclusive. If they teach any useful lesson it is that, for profitable bee-keeping we require (1) a vigorous race of bees, (2) multitudes of field-bees during the honey-flow, and (3) the strictest economy in every direction all through the year.

Plurality of Queens in the Hive.

Speaking of this in the British Bee Journal, G. W. Avery says:

"Since the system was announced in the American papers, I have been trying to solve the difficulties connected with it, and must frankly admit with not very encouraging results. It is quite possible, I have found, to introduce several queens to a colony in more ways than one, and quite easy to keep them there so long as food is supplied with a liberal hand, or while a honey-flow is on. When the income is withdrawn all queens but one disappear, and the colony settles down to its normal condition."

Langstroth and the Removable Frame.

It is amusing, and a bit sad, that such an error should find its way into print as one appearing in the Australian Bee Bulletin, page 129. It is there stated that about 1872 Rev. Mr. Langstroth visited a foreign land and brought back the bar-frame hive! No doubt, when his attention is called to it, the editor will be glad to make the correction by saying that 20 years prior to the time mentioned *Langstroth invented the movable frame hive.* Very likely only a typographical error.

Depth of Honey Tanks.

I. Hopkins advises that tanks for storing extracted honey should not be more than 20 inches deep, and as big as you like superficially. The shallower the tank the more rapidly the small bubbles of air will rise to the surface, and to facilitate this and ripening, the surrounding atmosphere should be warm and dry.—Australian Bee Bulletin.

Item About the Bee-Moth.

"When the moth is disturbed it moves with a jump and a flit, making it hard to catch." Yes, hard to catch after it gets to jumping and flitting, but very easy before. Move the fingers slowly till within an inch or so of where the moth is sitting, then quickly make a dab, and you have it. Now something interesting to youngsters. When you catch a moth, pull off its head; and if it is a female—nine times out of ten it will be one—it will almost immediately begin feeling around with its ovipositor. Shut together your thumb and finger, and let the ovipositor feel its way into the crack between them, and a very little round white egg will be laid there—perhaps several.—Stray Straw in Gleanings.

"Tasted Like Honey."

A Maryland brother sends the following, which may be characteristic of his "locality":

'What in the world have you got on your lips?" asked the young man, after the struggle was over.

"Nothing," said the young lady, indidnantly; "what did you think?"

"Tasted like honey," replied the frank young man.

He didn't have to fight for the next one.—Nashville American.

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Send Questions either to the office of the American Bee Journal, or to
DR. C. C. MILLER, Marengo, Ill.
Dr. Miller does *not* answer Questions by mail.

Transferring from Box-Hives—Putting on Supers—Sowing Sweet Clover Seed.

1. I have 5 box-hives with bees that I want to transfer into new frame hives. By taking the bees from each hive and putting half into one new hive and half into another with the old queen, and introducing a new queen to the half without a queen, can I make a success?

2. When should I put the first super on?

3. If I should sow sweet clover seed on an old hillside, would it blossom the first year?
NEW YORK.

ANSWERS.—1. You would be likely to succeed; but it is hardly the best way. Wait till the colony swarms; put the swarm on the old stand, and the old hive on a new stand. Twenty-one days later transfer the colony in the old hive into a new hive. At that time there will be no worker brood in the combs in danger of being injured.

2. Since you are in a white-clover region, give supers when you see the first clover-blossoms out. Bees will not store quite so soon as that, but it's better to be a little in advance. But keep close watch or you'll miss seeing first blossoms.

3. No; sweet clover is a biennial, comes from the seed and grows this year, blossoms next, and then dies, root and branch.

Early Requeening—Eating Comb Honey.

1. I have a colony of bees which did not do anything last year, and I want to requeen that colony next spring. How early can I get a queen? and where? Would it be all right to send down South for her? Can I get her early enough so that the colony will be in good shape for the white clover honey-flow? I prefer an Italian queen.

2. Is the comb in comb honey injurious to a person's health? Most people when eating comb honey swallow the comb. IOWA.

ANSWERS.—1. It is hardly best to think of introducing a queen before bees begin to do some gathering; during fruit-bloom at the earliest. Before it is time to order a queen you will see advertisements by reliable men in the columns of this journal. It will be all right to order from south or north. A successful introduction ought to leave you all right for the clover crop.

2. Beeswax is utterly indigestible. It is sometimes used to make corks for bottles containing acids so powerful that they burn up ordinary cork, and of course the weak acids of the stomach can have no effect upon it. I have seen something about its being melted in the stomach; but the heat in the stomach is many degrees too low to melt beeswax. Even if melted, it would still be as indigestible as ever. But lots of indigestible things are taken into the stomach that do no harm, and may do good. When comb honey is chewed with other food and taken into the stomach some claim that the finely divided portions of wax are a benefit. Certainly they are not likely to do any harm.

Crooked Combs — Miller Frames—Chestnut Lumber for Hives—Nail-Spacers.

1. Some of my combs are crooked, and I would like to renew them by taking out about 2 of the worst ones, and putting in 2 frames filled with full sheets of comb foundation. Where is the best place to put those 2 frames—on the outside next to the dummy, or somewhere else?

2. Why do you have bottom-bars so wide (1⅛ inches)?

3. How late in the fall could I open a sealed cover and be sure that the bees would seal it down again?

4. Could I use Miller frames for extracted honey?

5. Will bees build comb in a space of say ¾ of an inch between the bottom of bottom-bars and bottom-board, or between 2 brood-chambers, if the comb is not built down to the bottom-bar?

6. With Miller frames for extracted honey could I use the common straight-blade uncapping-knife, or would I have to have a special bent knife to go down between the top and bottom bars? I mean with 1⅜-inch spacing. Would the comb be thick enough with wider spacing, say 7 frames in an 8-frame hive, so I could shave off the cappings with a straight-blade knife down the sides of the top and bottom bars?

7. Why do you have the ends of top-bars just 5-16-inch thick? Why not have them ⅜ or ¼-inch thick?

8. I have been making some Miller frames, but I find I can't get hold of the ends of the frames with my fingers to get them out of the hive, unless I move them apart, or have some tool. Why do you have the frame-ends so wide, (1⅛ inches), when you can't get hold of them? I am going to make some Miller frames, but I am going to narrow the ends of the top-bars down to ¾-inch wide, and ⅜-inch thick.

9. How would chestnut lumber do for bee-hives?

10. I bought a colony of bees last fall, but they were on 12 empty loose-hanging frames put close together in a 10-frame hive, and of course the combs are crooked. To get the combs straight I am going to give them a hive of frames with full sheets of foundation. Where would you put the new hive—on top of the old hive, or on the hive-stand with the old hive on top? And when would you give it to them? I mean to let the colony have both until they have a brood-nest established in the new hive, and then take the old hive away.

11. Your nail-spacers catch on the end-bars, when down in the hive. How would it do to use nails with heads, with a diameter of 3-16-inch on the point, increasing to ⅜ where it touches the frame? How would brass-headed tacks with heads ¼-inch deep do?

12. Will bees build combs down to the bottom-bar in frames that are not built down, if a starter is put on top of the bottom-bar?
NEW YORK.

ANSWERS.—1. You will do as well to put them in the middle. Better give them at a time when bees are busy, say at the beginning of the narvest or a little before.

2. Why have them narrower? Why have any bottom-bar at all? I suppose the chief reason for a bottom-bar is to prevent the bees building any further down, and a wide bar prevents it more perfectly than a narrow one. With a narrow bar bees sometimes build down. Do you know any good reason why there should be any wider space between bottom-bars than between top-bars?

3. That depends upon season and weather. It must be early enough so that propolis will still be warm enough to work.

4. Sure.

5. If there is a space of ¾ inch between bottom-bars and floor, there will be no building if bottom-bars are 1⅛ wide. With narrower bars there may be some danger, and the narrower the bars the greater the danger. If there is a space of ¾ inch between two stories, I'll guarantee comb built between them, good and plenty, whether the comb is built down to the bottom-bars or not.

6. With 1⅜ spacing you could use a straight knife, but it would not work so nicely as with narrower bars. I think 7 frames in an 8-frame hive would work all right.

7. My frames are made to fit dovetailed hives with metal rabbets as they are regularly put on the market. If the end of top-bar is 5-16 thick there is a space of ¼ inch between top-bars and whatever is placed over. If ⅜ thick the space over top-bars would be filled with glue; if ½ thick, with comb.

8. I don't find any trouble with full width, as I want to push the frames apart anyhow, and they are a little nicer to handle without any shoulder. There's no law against your having ends of top-bars any thickness you choose, only if you make them ⅜ thick, my advice as a friend is to make sure that there will still be left ¼ inch between the top-bars of the lower story and the bottom-bars of the second story, unless you want to learn to swear when the upper bottom-bars pull off because glued down.

9. From my recollection of it in boyhood, I should call it bad.

10. Put the new hive under the old one. That will give you the brood in good shape in the new hive; whereas, if you put the new hive over, it would be mostly filled with honey.

11. Your first-named spacer would be all right, only I think I'd just as soon have it only 3-16 at the base as the point for comb honey. Brass-headed tacks would be all right if they were 3-16 across the point of the head. You're on exactly the right track, and I've urged for years that something after your idea should be manufactured.

12. Yes, I've had them do so. But you must give such frames at a time when bees are building, or they'll tear down your bottom-starter.

Propolis on Tops of Sections.

I made some T-supers out of 4½-inch lumber, and the bees use too much propolis on top of the sections under the cover. With your T-supers, which I believe are made of 4⅝-inch lumber, do you have any trouble with the bees filling the spaces with comb? If they work all right for you, I think I shall make my next lot 4⅝. PENNSYLVANIA.

ANSWER.—Most of my supers are now probably nearer 4½ than 4⅝, the lumber having shrunk through age. There is seldom any trouble from comb being built in the space above the sections—perhaps never unless the bees are crowded too much. Neither was there such trouble when the supers were first made.

Preventing Gnawing of Separators.

How do you manage to keep the bees from gnawing the edges of plain sawed separators used in T-supers? Could I paint the edges with anything that would prevent it?
PENNSYLVANIA.

ANSWER.—I am not troubled with such gnawing, unless it be once in a while a separator that is extra thin, ⅛ inch being the regular thickness. But generally after a separator has been in use a year or two I throw it away rather than to clean it, which may be a little extravagant. Possibly the application of a hard varnish or of vaseline might prevent all gnawing.

Moving Bees About a Mile.

I have an apiary of 106 colonies that has to be moved about one mile by May 1. How can I do this without a loss of bees? The bees are in the cellar now, and in fine condition. IOWA.

ANSWER.—If bees are moved as far as a mile, especially in the spring when they do not fly far for forage, there will be no trouble about their being lost by returning to the old location. You can move them any time after they have taken a cleansing flight, which they will do on the first day they are taken from cellar, if the weather is what it should be. Of course, the bees must be fastened in the hive, with enough wire-cloth to allow ventilation, although if the weather is cool, very little ventilation will answer, merely closing the entrance with wire-cloth.

Tar-Paper for Hive-Protection.

I run 2 apiaries. One I protected with tar-paper. I fed each colony about 30 pounds of sugar syrup, half and half. Both apiaries had the same chance to gather honey. The apiary not protected with tar-paper produced about one-half as much honey as the one protected. What made the difference in the yield of honey—the feed or the protection? IOWA.

ANSWER.—I don't know. It may have been one or the other, or it may have been both

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together, and it may also be that there was a difference in the two lots.

You do not say when the feeding was done, but the likelihood is that it was fed for winter stores. If this fed lot had all the stores needed for wintering and a fair amount over, they would be likely to push ahead at brood-rearing in the spring, while the unfed lot, having very little more than enough to bring them through, would restrict brood-rearing, and so not in good condition to improve the harvest; and in that way it would be easy to make the feeding account for the difference in results.

Foul-Broody Combs for Extracting Combs.

I have always been a comb-boney producer, but as we are now overstocked with bees right here, I want to run an out-yard for extracted honey. I can get extracting brood-combs that have never been bred in, that have been used on bees, some of which were affected with foul brood, and the combs have been set out and cleaned up by the bees. Now will these combs spread the disease, or are they safe to use again? MICHIGAN.

ANSWER.—They might be all right, but I wouldn't want to bring into my yard anything that had been used in a foul-brood yard.

Feeding Bees in Winter.

When I put my bees into the cellar this winter some colonies didn't have very much boney. Now they are noisy. Some of them fly around. Is there any reason that they should be short of supplies? If so, would it be all right to put candy through the entrance into the hive? Or is there a better way?

MINNESOTA.

ANSWER.—There is probably some reason why they are short of stores, but having no particulars I do not know what the reason is. At any rate, if there is danger of their starving they should certainly be fed. Putting honey or candy in through the entrance is an excellent way, only you must make sure that the bees come down to get it. If they do not do so readily, warming up the cellar would help toward it. If they can not be induced to take it below, you may be obliged to give it above.

Bees Dying in Winter.

This is my third year with bees. I have one colony in which the bees are dying by the handful, almost daily, and about a hatful of dead bees are now outside the hive. They have nothing but boney—about 50 pounds—in their hive; no other feed. They have an Italian queen 2 years old. Why are they dying? IOWA.

ANSWER.—Impossible to say. It is just possible that they are starving. That doesn't look at all likely, with 50 pounds of honey actually present, provided that the honey is at one side in a bive large enough, and the cluster is on empty combs on the other side. Against such a guess is the fact that the winter has been unusually mild. Possibly the trouble is due to the character of the honey. In some places the bees store boney-dew that is about the same as poison.

Short-Lived Bees—Queens Lost at Mating-Time.

1. When there are several colonies of bees in the fall in good condition, having plenty of bees and boney, and in the spring you find some of them very weak, does not this show that the queen is producing short-lived bees, and ought she not to be superseded?

2. I lost several queens last season when they returned from their wedding flight. The bees balled them. I have found them balled when they were not over a week old. When I took some bees and a virgin queen and made a nucleus, the first queen would be mated all right. It was the second queen that gets killed. Can you tell me why the bees killed the queens? NORTH CAROLINA.

ANSWERS.—1. Not necessarily. It might be so in some cases; but in other cases other factors have so much bearing that it would not be safe to conclude that the bees were necessarily short-lived.

2. It is said that the bees attack the queens because they have acquired a strange scent. But there may be some question whether in returning from her wedding-flight she is likely to be killed by her own bees if the bee-keeper himself does not meddle. Bees sometimes ball their old laying queen, and when I have found them doing so I have always made it a rule to close the bive as quickly and quietly as possible, leaving the bees entirely to their own devices, and on looking in the hive a few days later everything would be found all right. If you try to rescue the queen from the balling bees, you stand a pretty good chance of baving her killed. Why may it not be the same way when bees ball a queen that has just mated?

Tin Number Tags for Hives.

I see in the American Bee Journal your system of numbering your bee-hives with tin numbering tags. I have been trying to find some of those numbering tags. Where can I get them? KANSAS.

ANSWER.—I have made some effort to get supply dealers to furnish numbering tags, such as I use, but without success. The most I could ever obtain from them were tags of heavy manilla, paraffined. I'll tell you how to make the tin tags. Cut tin 4x1½ inches (exact size not important), and make a small nail-hole about ½ inch from one edge of one of the longer sides. That hole serves to fasten the tag on the hive. For this purpose use a light wire-nail, 1-inch or a little longer, driving it in only a little way, so it can easily be changed from one hive to another.

You can paint each tag separately, but it is better to make a sort of wholesale business of it. Lay the tags on a board, and fasten them there by driving through the hole of each a very small nail—½ or ¾ inch—driving the nail entirely in, so it will not be in the way of the paint-brush. Now give 2 or 3 coats of white paint, and on this paint black figures about 1¾ inches high, and as wide as will conveniently go on the tag.

Managing a Daisy Foundation Fastener.

I recently purchased a Daisy Foundation Fastener with directions to come with it. They say in part: "With a slight pressure on the section cause the iron plate to protrude under the starter; allow the latter to come in contact with it for an instant; then release and allow the starter to drop with its melted edge upon the section."

That's well enough as far as it goes, but what next? If I leave it there it burns up; if I take it off it falls out. Taking it altogether, I make very little progress. Probably you can help me. CALIFORNIA.

ANSWER.—I suspect your failure begins when you let go the starter after putting it in place. That is, you take your fingers entirely away from the starter. Instead of that, let one or two fingers of each hand press lightly down upon the edge of the starter, enough to steady it in place—in other words, to keep it from falling out till the section is turned over. By that time, if you are expert enough to work quickly, it will have cooled enough so it will hang in place without falling out. At first you will be awkward and slow about it, leaving the section in the machine so long that the wood will have time to get hot; so when you take the section out of the machine, and before you turn it over you must hold it still long enough for both wood and wax to cool. Gradually you will gain in rapidity until the wood will have no time to get hot at all. Experience will teach you how high to keep the lamp turned up so as to have the plate neither too hot nor too cold. Some time must be allowed for the plate to heat before you begin using it.

Splinting Foundation.

1. Do you fasten splints by immersing them in melted wax and pressing them into place?

2. Do you wire frames?

3. Do you put splints on the same or opposite sides of the wire? Tell me anything else that will help one who has never used splints.

COLORADO.

ANSWERS.—1. The splints are first allowed to remain in hot wax till the wax soaks in. At first they will froth up, because the moisture in the splints fries out, and when they stop frothing you may count they are filled with wax. Then with a pair of nippers you pick up a splint and lay it in place on the foundation, where an assistant presses it in place with the wet edge of a little board. It is not so well to try to do it alone, for the splint should be pressed down immediately, while quite warm, so it will force its way into the foundation, and so the wax of the splint will unite thoroughly with the wax of the foundation. But it will not do to have the wax too hot, or else there will not be a sufficient coating of wax. If too cold, the splint will not be sufficiently embedded in the foundation. A little experience will help you to get it just right.

2. No, the splints are all-sufficient.

3. The splints are put on only one side.

The principal object I had in view in devising the splints was to have the comb built down solid to the bottom-bars. To make sure of this my bottom-bars are in two parts, the foundation extending down between them. So you can also do with plain bottom-bars by having the foundation come down to touch the bottom-bar, and then running hot wax along the crack.

Bees show a strong inclination to bave a passage between the bottom-bar and the bottom of the comb, and if a frame is given them when little is doing they are likely to gnaw open such passage. To avoid this, give them the comb to build only at a time when they are gathering and building.

Position of Frames.

I see in your answer to my question on page 24, "Position of Frames," that you did not understand my question, probably because I did not make it plain enough. What I wisbed to know was this: How am I to place the 16 frames in the spring to get the best results, when I am going through them early in spring and making an examination? How shall I place the frames of boney, and how shall I place the empty combs and bees that they may build up the fastest? Should the honey be left at the sides or on top of the bees? If over the bees they would have warm honey, but the brood would be crowded down too close to the entrance. Should I put one empty super or brood-chamber without sections or frames, under all? Then it would raise the cluster up away from the draft, but would make a chamber under the 16 frames 6 inches deep. Just tell me bow they should be left on my first inspection, say the first warm day in March.

Frames 3, 4, 5, and 6 are in the center of the upper or second story, and the brood, 11, 12, 13 and 14 are directly below, and are empty combs, and the queen is not liable to go down so quickly as up, in the fall. Frames 3, 4, 5 and 6 are always solid with honey, and the bees are on 11, 12, 13, and 14 in the center of the lower story, and on the bottom-board which has a one-inch space between frames and board. Nos. 1 and 2, and 7 and 8 are at the sides above; Nos. 9 and 10, and 15 and 16 are at the side below.

NEBRASKA.

ANSWER.—Thanks for explanation. It is more my fault than yours that I did not understand. I tbink you are counting it desirable to have the honey where it will be warm, and also to have the cluster of bees as much as possible away from the air. Neither of these things are important after time for first overhauling. If honey is in any part of the bive the bees will get it, and although it might be better warm than cold, it will be better for them to have to go to a colder part of the hive to get it than to have heat escape from the cluster to warm honey overhead. Bees like fresh air, and you will generally find in a one-story hive that the brood is toward the entrance and the honey farther back. But with empty frames below, there is no trouble about the air getting to them. Most assuredly I would not make the stories exchange places, for the cluster will keep warmer right where it is in the upper story. Indeed, I don't believe you can do any better for building up in spring than to leave the bees, combs and all, just as they are. The heat will be better preserved, and the cluster will work down into the lower story just as fast as room is needed.

Drones—Bees Deteriorating—Breeding Bees.

1. Is there any noticeable difference between drones hatched from a virgin queen and one that is mated, both being hatched from the same lot of queen-cells?

2. Do drones vary in appearance when hatched from a hybrid queen?

3. What is the most practical method to determine how far bees will fly so that they do not mix in 2 separate breeding yards?

4. What is the reason that the best strains of pure Italians deteriorate to all manner of bees when left to supersede themselves, even if left by themselves in an isolated place?

5. Why can not our noted queen-breeders produce certain types of bees (such as the 5-banded golden Italians) so that they are an exact copy of each other in the worker-bees?

6. Why can not our breeders produce better stock each succeeding year, the same as our poultry and cattle fanciers do?

7. Where can one get the best book of information on breeding pure bees?

AMATEUR QUEEN-BREEDER.

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ANSWERS.—No, and yes. Let a queen lay an egg in a drone-cell, and the drone produced therefrom will, so far I know, be exactly the same, whether the queen has mated or not. But take two queens reared from the same lot of cells, the same in every way except that only one of them has mated, and examine the lot of drones in the hive of each, and you will find a big difference. The unmated queen will likely have some drones reared in drone-cells, and these will not differ in any way from the drones in the other hive. But most of the drones from the unmated queen will be reared in worker-cells, and these can be distinguished at a glance as very much smaller, because not having room in a worker-cell to be fully developed.

2. Yes.

3. I don't know. By having bees of different kinds at different distances, one might find out something about the greatest distance at which a drone from one yard would meet a queen from another yard; but that would not determine the distance of a drone's flight unless the distance of a queen's flight were known.

4. If by "all manner of bees" you mean hybrids of varying colors, the question may be asked whether they do thus degenerate. Either Italians or blacks, isolated, are likely to deteriorate, but I don't know enough to tell just why. Some one may say it's because of in-breeding, but that's only dodging the question, unless some one tells us why inbreeding causes degeneration, which, indeed, it does not always do.

5. I don't know. Very likely they don't know enough. And yet, do they not do so, practically?

6. Can't they?

7. Aside from what is contained in books on bee-culture in general, there are the works specially devoted to queen-rearing by Doolittle and Alley. That perhaps still leaves room for a book to be written exactly to answer your question.

Some Interesting Questions.

1. As an extensive reader of bee-culture, and a comb-honey producer, what have you read in the past 3 years that you found profitable to put into practice?

2. Is there any particular thing that you would have adopted if you were using a 7½-inch deep frame?

3. If you make increase or rear queens, do you take any other course than is set forth in your work of "Forty Years Among the Bees?"

4. Is it a local freak that an artificial or nucleus-reared colony, no matter how strong the first season, does not become a first-class honey-producer until in its third year?

5. How many years have you run colonies (any number from one up) without making any internal changes, feeding or otherwise, except queen-clipping?

6. Does not a queen reared in the hive she occupies become, as a rule, more successful so far as rearing bees and storing honey is concerned than a queen reared elsewhere, and introduced?

7. Suppose at the beginning of a clover-flow you hive a prime swarm in a hive differing widely in construction from the average hive, and found the section-honey stored by it far superior to any stored by 50 colonies in the same yard and time. Would you consider it a case of working on different bloom, or that the hive might have something to do with it? Can you point out the trail to this fine quality of honey, the time of honey on the hive being the same as the rest?

PENNSYLVANIA.

ANSWERS.—To answer that question in full might take a good deal of time in hunting up, and more space than can be afforded to tell about it. I never dare omit reading anything contained in any bee-paper I receive, for fear I may miss something that is new and good. Generally I get something to pay me for thus reading; so you see it would be a long story to put it all down in black and white.

2. There are probably many things that I would use with that kind of frame. One that happens to occur to me just now is putting a weak colony over a strong one in spring in order to strengthen the weak colony.

3. I tried to give in "Forty Years Among the Bees" exactly the way I do things, and rearing queens was given just as other things. I shall probably follow the same course the coming season, except as to using the two hives and exchanging queen, as given on page 242. It is less trouble on the whole, and more simple, to make a fresh colony queenless each time a fresh batch of cells is to be reared.

4. Must be a freak of locality. I should expect a colony to do good work the next year after being started as a nucleus, if strong enough.

5. I don't know. I couldn't be sworn that I ever run a single colony even one year without making any changes, even if it were only to change the location of a frame. To be sure, I may have left them undisturbed, but then I don't know.

6. Perhaps so; if the two queens are equal, because in the one case there is at least a little disturbance of the regular order of affairs in the hive, and in the other there is not. That, however, by no means militates against the fact that there may be real gain by doing a lot of introducing.

7. I should think that particular colony was working on something different from the rest. When that has occurred with me I have not been able to point out the trail, partly because it comes at a time when there is little leisure to find what bees are working on, and possibly also because I may not be a good trailer.

Golden Italian Bees.

I divided a colony of bees last summer and introduced a standard-bred Italian queen, which I had sent for. As soon as her bees commenced coming out of the cells, I was surprised to find that both the drones and worker-bees were golden Italians. I have read so many times that the golden Italians were not hardy and not desirable for practical purposes.

But this colony did so much better than any of the rest, and capped the combs better and cleaner, that I can not decide whether to breed from her or not.

What do you think of the goldens? Would it be practical to breed from this queen? I don't want to get a start in goldens if they are not as good as the leather-colored as a general thing. IDAHO.

ANSWER.—Seeing that so far her stock has shown itself superior to your other stock, I would breed in part from her and keep close watch as to results, comparing her progeny with others. There seems to be quite a difference in the all-over goldens, some being reported extra good and some extra bad.

An Early-Reared Queen.

On page 26, Wm. Marshall says he had a queen born March 20 that was as prolific a queen as ever was in a hive, and says, "Now this does away with some of the theories that have been advanced." I think you claim that early-reared queens are poor. Which of you am I to believe? SUBSCRIBER.

ANSWER.—Believe both. At least what each of us states as fact. Believe that he had a fine queen very early, and that queens reared early hy me have been mostly worthless. I'm not entirely sure what he means about doing away with some of the theories that have been advanced, but I suppose he means the theory that early queens are poor. I hardly see how an exception does away with a rule. Even with Mr. Marshall, that good queen was the exception to the rule, for he says 2 other early queens "were no good." If I understand him I wish he would tell us what theory he means is done away with.

Simple Requeening Without Buying Queens.

Walter M. Adams, page 28, asks for a simple plan for requeening without buying queens. He has 11 colonies, and 3 of them have pure queens. The thing desired, evidently, is to give the 8 colonies queens of the same stock as the other 3 colonies. There is nothing much simpler than to rear queens from the pure stock and introduce them; but from the way the wish is stated I suppose he wants something more simple yet. So I'll give a plan that is exceedingly simple, that may be used with either a box-hive or a frame-hive, perhaps without even opening a hive, although it has the drawback that possibly only a part will be changed. But by following up the plan there will never be any increase of the poorer stock, all the increase being from the preferred stock.

If the best three are not stronger than the others, so as to be ready to swarm first, then brood or bees from the poorer must be given to the pure stock, so they will be sure to swarm first. Suppose the 3 pure colonies are numbered 1, 2, and 3, and the others 4 to 11. When No. 1 swarms, hive the swarm and set it on the old stand, and set No. 1 on the stand of the strongest of the poorer colonies, say No. 6, if that happens to be the strongest of the poorer ones, setting No. 6 on an entirely new stand. That will result in having all the field-bees of No. 6 go to No. 1, weakening No. 6, and strengthening No. 1. In a week or more No. 1 will be pretty certain to cast a swarm, which is to be put on the stand of No. 1, and No. 1 is to be put on the stand of the strongest of the poorer colonies left, say No. 4, No. 4 being put on a new stand. In 2 or 3 days No. 1 will swarm again, when the same process is to be repeated. When Nos. 2 and 3 swarm, there must be the same management, and there ought to be no trouble in having at least 8 coolnies with queens of the better stock. Indeed, it is entirely possible to go beyond that, for so long as a swarming colony with a lot of virgins is continually strengthened by being set in the place of a full colony, it would be nothing remarkable for it to send out 4, 5, or more swarms. Well, suppose you have already had 8 swarms, and all the colonies from 4 to 11 have been set on new stands. When the next swarm issues, put it in place of No. 6, or some other of the ones moved first, and if you continue in that way it would be nothing strange to have as many as 10 or 12 swarms altogether. Some of the last ones will be weak. Break up the colonies with the poor queens, strengthening the weak swarms with them, and there you are with nothing but new stock on hand.

A Hydrometer for Density of Liquids.

On page 5 of the American Bee Journal for 1908, in an article on "Testing Honey as to Ripeness," it is said "it would be a good thing" to "get a hydrometer." What is a hydrometer? and *especially*, how is it used? Of course, I understand a "hydrometer" must be an instrument to measure moisture. Still I repeat the questions, What is it? and how is it used?

MASSACHUSETTS.

ANSWER.—A hydrometer is an instrument for determining the density of liquids, consisting of a weighted glass bulb with a long stem on which there is a graduated scale. It is put into the liquid, where it stands upright, the denser the liquid the higher it stands, the figures on the scale thus showing the density. If an up-to-date dairyman is near you, he may have a hydrometer which he calls a lactometer.

Weak Colonies in Spring.

What do you think of Mr. Alexander's spring management of weak colonies? What would you advise me to do to save the weak colonies in the spring? IOWA.

ANSWER.—Some of the things Mr. Alexander favors it would be wild for others to follow, such as keeping so many colonies in one apiary, his special conditions favoring that; but as to the matter of weak colonies in spring he has done the fraternity a real service. Care, however, must be taken. The first time I tried it the strong colony was at work inside of 10 minutes fighting the weak one, and didn't stop till it made a finish. The colonies must be gently bandled so there will be no getting together till the upper colony has had time to get the scent of the lower, or else a wire-cloth must separate the two for 2 or 3 days.

Vinegar in the Bee-Cellar—Increase—Crop for Honey and Produce—Sugar Syrup in Section Honey.

1. I have a cellar that is suitable in every way for wintering bees, but I have 10 or 12 barrels of very strong vinegar stored in it, which throws off a very strong odor. In your opinion, would it affect the bees' wintering well?

2. If small particles of ice form on the hive-entrance of a colony of bees that are wintering on the summer stands, is it an indication that they are not in good condition for winter?

3. Can you give the name or names of any person or persons running an apiary and not engaged in any other business, and making a success of it?

4. I will have 4 colonies of bees providing I winter them all right. I wish to increase to the fullest capacity, and yet not reduce the parent colony so much as to interfere with their storing some honey. Will you lay down a rule that I may follow?

5. What becomes of bumble-bees when cold weather comes on? You can never find them in their nest after the first cold spell.

6. What crop do you think would be the most profitable to plant for honey and produce? I refer to New York State.

7. Why is it that this paper does not publish the names and addresses of questioners?

8. If a person should feed bees with sugar syrup, and they should store some of it in sections, and those were sold as pure honey, would this be violating the pure food law?

NEW YORK.

ANSWERS.—1. I don't know. To smell the air in a cellar where even a single barrel of strong vinegar is, one would think it bad for

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either man or hee to breathe, yet the breathing of strong fumes of vinegar has been commended as a good thing for bad lungs. As a guess in the case, I would venture the opinion that your bees would be better off without the 10 or 12 barrels of vinegar, but that they may still winter well with it. If you try it, by all means report the result, so the rest of us may have the benefit of your experience.

2. No, there is nothing alarming about it any more than there is in seeing a man's breath form in icicles on his beard when he is out in freezing weather.

1. How would I answer your purpose? Since June, 1878—that's more than 29 years—I've had nothing to do with anything but bees in the way of a vocation, have had more than I could eat and drink, have not been "out at the knees" much of the time, and have had the jolliest kind of a time; wouldn't you call that making a success of the business? Perhaps you may think that besides working with bees I've been exposing my ignorance by trying to answer questions in this department, and also writing other things for the bee-papers. Well, there are Messrs. Gill, McIntyre, Mercer, Rauchfuss, Doolittle, Mendleson, Alexander, Townsend—oh, I can't think of them all—a whole lot of them.

4. If I understand the problem correctly, it's to say how to increase one colony to just as many colonies as possible, and yet get as much honey from the parent colony as if there had been no increase. Don't you worry about my referring you to any book; I don't know of any book that tells how to do it. Neither do I know. I don't think the man is yet born that knows how, and I don't believe he ever will be born. It takes honey and labor on the part of the bees to make increase, and that must inevitably cut in on the honey crop.

5. I don't know. Will some one please tell us?

6. Perhaps buckwheat.

7. I'm not sure that I know all the reasons. Perhaps a sufficient reason is that in general apiarian questioners do not want their names and addresses given. Indeed, so strong is this feeling that in spite of the fact that they are never given, it is a very common thing for questioners to say, "Please do not give my name."

8. Yes.

Starting in Bee-Keeping.

I have never kept bees, but I want to begin now. Can you advise a beginner? I fancy Italians from what I read, as they seem to be most popular. I thought of starting with one colony, and increase as I learn.

NEW JERSEY.

ANSWER.—You are quite safe in starting out with Italians. Not so certain that it is best to begin with only one colony. While it would be very unwise to begin with too many colonies, it is well to have at least 2, for there are things you will be doing in the way of changed brood from one to another, and other things when you come to have more than one, and you may as well be having some experience in that line from the start. I'm wondering just a little if you're going to have a paper about bees and no book. If so, that's putting the cart before the horse; you should have a book, sure.

Beginning with Bees—Bees Leaving Hive.

After my first year's experience with bees I'll let you know how I am progressing. A swarm of bees came to our place July 13, 1906. I put it into a box-hive which they filled to the brim with comb and honey that fall. Last spring I put it under an apple-tree where it cast the first swarm July 18, another July 27, and the last one August 17. I weighed them Nov. 3, and No. 1 weighed 76 pounds, No. 2, 67 pounds, and No. 3, 59 pounds, including the hives, one of which is a 10-frame and the other two 8-frame. They are dove-tailed hives, with Hoffman frames. Now I think this is not very bad for a start.

But, the old colony left September 18, with not a bit of brood nor honey left. I tore the combs apart and found 117 queen-cells. Does that account for their leaving the hive? Also, do you think my other colonies are in danger of running short of stores?

MINNESOTA.

ANSWER.—A force of queen-cells 117 strong, with no brood, might well be enough to frighten a colony into deserting or doing almost anything else. You say there was "not a bit of brood," which leaves it a little uncertain whether there was no brood in the queen-cells or no brood in the hive besides the brood in the queen-cells. In any case the likelihood is that they were without a normal queen, and had been for some time, reduced in numbers and discouraged. There is something abnormal about that swarm August 17, which I don't understand. Judging by the weight, your bees ought not to be in danger of starving.

Feeding Burnt Sugar Syrup—Transferring Bees.

1. Would sugar syrup that has been burned be safe to feed in spring? "A B C of Bee-Culture" says it is sure death to any colony so fed.

2. In transferring in spring, why not drum out bees from box-hives, being sure to get the queen, place the bees in a new hive with combs or foundation, set the new hive on top of the old one, with tight bottom-board, and place on the old hive what is called a "Dudley" tube? In that way, as soon as the young bees from the old hive are old enough to gather honey they pass up and enter the new hive. In the old way the young bees remain with the old hive 21 days, and in case of a heavy flow much would be lost.

MICHIGAN.

ANSWER.—1. Look again and see if the "A B C of Bee Culture" is not talking about winter stores. In winter it is of first importance that the bees should have the very best food, but after they begin to fly daily in spring they may be fed anything they will take, except poison.

2. Might work all right, only there might be danger early that the brood would not be properly cared for.

Good Queen Reared by "Mere Handful" of Bees.

Last spring caused several of my colonies to supersede their queens, and, as I suppose, the weather being so bad, some were lost, but by giving them another frame containing eggs, etc., all of them except one colony proceeded to rear another lot of queen-cells. They destroyed 5 or 6 cells. Finally they had dwindled to a mere handful of bees, and had not an ounce of honey in the hive. This was during the honey-flow from white clover, and as I had had lots of fun with them, I decided to try them again by giving them another frame of brood, part honey, and to my surprise they built 3 fine queen-cells. This was at the close of the white honey-flow.

When the fall flow came they were weak compared to the other colonies, but filled an 8-frame hive-body with plenty to winter on.

Now why did these bees build good queen-cells and rear a good queen when all authorities agree that good cells are made only by strong colonies? Or, was this an exception to the rule?

At this date this colony is heavy in stores and has about as many bees as any I have. The "mere handful" I speak of means just what it spells, as there was not a pint of bees in the hive.

MISSOURI.

ANSWER.—It was an exception to the rule, and there were exceptional conditions. It is of such great importance to have the best queens possible that these conditions possible for good cells should be allowed. With a weak colony there are chances of cool spells when the cells will not be the best nursed and nourished. In your case, it may have happened that during 3 or 4 days when the bees fed the royal larvæ the weather was hot so that only a few bees were needed to keep up the heat, and the flow of honey spurred these few to their best. Possibly some other things were exceptional for the large force of bees is not merely for heat. In any case, it does not prove that it is wise to take any chances by trying to rear good queens without giving them best conditions. The next 20 times you tried the same thing the result might be very different.

Italian-Caucasian Bees—Rearing Queens.

1. I have 2 colonies of bees, one pure Italian and one pure Caucasian. If they winter all right I intend to rear some queens next summer. I have read that a cross between the Italian and Caucasian is a very good bee. Has this been your experience? Would you use the Italians, or Caucasians, for mothers?

2. If I rear my young queens from the Italian mother, how can I tell by their workers whether they have been mated with black or Caucasian drones?

3. "Quinby's New Bee-Keeping" advocates rearing queens in a small nucleus, with no other brood in it than the few larvæ from which the queens are to be reared. Do you think a beginner could get good queens by this plan?

ILLINOIS.

ANSWERS.—1. I have had no experience with such a cross, and it is a little doubtful whether you can learn anything very definite about it from others. As to Caucasians themselves, testimony greatly varies, some saying they are very good workers and some saying they are very poor; so it would be hard to be certain about a cross. If your Caucasians prove good, the cross might be good; otherwise not.

I don't know which it would be better to use for mother; it would be easy to try both.

2. I don't believe you can tell how they are mated, for I don't believe there is a place in Cook County where your queens will not be likely to meet drones from other yards. And I very much doubt if you could tell by looks of her progeny whether a queen from an Italian mother had mated with a pure Italian drone or a hybrid. It is doubtful if you can find a pure black drone within 10 miles of you.

3. I should expect very worthless queens from such a source, and it seems to me you must in some way have misunderstood Quinby. It may do to use a small nucleus after a queen-cell is well advanced, but not to start a queen-cell.

Standard Hive Dimensions.

1. Give the dimensions of the latest standard hive, the number of frames, and size of each, and tell how to fix the inside of the hive. Also give the size of the super.

2. Do the bees fill the super or main body of the hive first?

OREGON.

ANSWERS.—1. The size of frame most commonly in use is 17⅝ x 9⅛, outside measure, the number of frames in a hive being usually 8 or 10, although a hive may be made of such a size that it will contain any other number of frames. You will see that the size of the hive depends upon the number of frames to be used. The hive must be large enough to allow a space of ¼-inch over the frames, and ¼ or a little more at the ends, the bottom-bars coming down with the bottom of the hive. A space of ⅜ to ½ below bottom-bars is provided by the bottom-board or floor. I'm not sure just what you mean when you ask "how to fix the inside of the hive," but perhaps you mean as to spacing the frames. They are generally spaced 1⅜ inches from center to center, some bee-keepers spacing a little wider. Some arrangement for self-spacing is in quite common use. Supers are of different sizes and kinds, care being taken to have them of such size as to fit the hive.

If you are thinking of making your hives, it would be well for you to have at least one hive, accurately made, to serve as a pattern. If you can get any sort of fair wages at other work, it will be cheaper to buy your hives.

2. The body should be first filled.

Experimenting With Bees—T-Supers—Swarming.

1. I used to take 2 bee-papers, and was always getting some fool idea in my head, and then experimenting with the bees; almost always they "went wrong." Last year I was away from home all summer, so I stopped the papers, arranged to have the new swarms hived, and "let 'em went." We had a very poor season, and but little surplus was secured by any one, but I got about as much as the other bee-keepers around here. What shall I do? Stop the papers or the experiments? or both? I am afraid I'll be like the majority of the human race, and not follow your advice unless it suits me, for when I had put the bees up for the winter, I couldn't stand it any longer, and renewed my subscription to the "Old Reliable," sent for back numbers of 1907, and have been having a "feast of fat things" catching up.

I use T-tins and have a little different plan from any I have seen. My supers are 18 inches long, inside measurement. I fasten the ⅞-inch block at the end with 6-penny nails, driving them in from the outside, letting the heads project ¼-inch or more, so that they can be drawn out with a hammer. The flat tin is nailed to the block, of course. After the sections are in place I slip 2 thin wedges between the block and super. A piece of broken section can usually be crowded in. Then in taking out the honey turn the super over, drive out the thin wedges, draw the nails, loosen the block, and slip it out, and if you use springs at the side the super can be removed without any trouble.

2. Will a young queen swarm out *after* she

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commences to lay? That is, if I take strong colonies and successfully introduce queens reared next spring, will such colonies swarm during the season of 1908 if they have plenty of room? I can't remember having had one do so where I knew the queen to be a young one. Some writers claim a queen never lays drone-eggs the first season, and I never found queen-cells started in a normal colony without more or less drone-brood in evidence.

3. If they *won't* swarm, do you imagine I have accidentally got near enough to the trail of a man Davenport to hear his foot-steps? I believe his wonderful secret is somewhere along this line.

If you "don't know" I wish you would keep your eye on any colonies you have with those conditions. I will try ½ dozen colonies next season unless you tell me it is no use. I can't afford any more as I will have to buy queens. We can't rear them early enough here.
NEW YORK.

ANSWERS.—1. It must be both or neither. If you want to stop experimenting, you must stop the papers, for they will be all the while suggesting, directly or indirectly, new things to try. If you want to go on with the experimenting you must keep on with the papers, unless you're a fool, because in order to experiment intelligently you'll need all the light you can get from the papers; and, besides, being the philanthropic chap you are, you'll want to take the papers so as to report in them the things you've made a fool of yourself by trying, so that I, and others as well, can avoid making fools of ourselves by trying the same things.

The question then remains whether you shall keep on with both or stop both. I don't know. But you're in good position to know. You stopped both for a time, and you can tell whether life was more worth living then than since you've started the papers again, for I know you can't keep from experimenting if you try.

Your plan with the T-super is the best plan in the world — for you. It's your baby. Whether it would be the best for me depends upon whether it takes less time or not to empty the super than without that block. In many cases I am sure it would take more; where the bees have done a big lot of gluing it ought to take less.

2. The answer to your question must be a little mixed. If you allow a young queen to be reared in a hive, you may count on no swarming before the next season. If you introduce a young queen, it depends. If the colony is in no humor for swarming at the time the queen is introduced, then no swarming. If in the swarming humor already, they'll swarm in spite of the tender youth of the queen. I once had a queen swarm in less than a week after being introduced, and she had been laying only about a week. If I had kept the colony queenless until swarming had been given up, and then introduced the young queen, it would have been all right.

3. The idea of thus getting in young queens is all right and excellent, but hardly Davenport's plan, for you have to find queens before getting in young ones, and Davenport says he never finds a queen. I know a plan almost if not entirely certain to prevent swarming, that takes only about 10 minutes for each colony, and you need never see a queen; in other words, if I understand correctly, it fulfills the conditions of the Davenport plan. Do you think it would be wise for me to give away the secret?

Reports and Experiences

Good Prospects in Texas.

Bees are gathering some pollen today. Carniolans have considerable brood, and some drones are flying from strong Italian colonies. Prospects are good. GRANT ANDERSON.
Sabinal, Tex., Jan. 31.

Wintering—Bees Did Fairly Well.

I have been more or less interested in bees both in this State and Iowa for the past 20 years. I have tried wintering in the cellar and also on the summer stands, with both good and bad results. Last fall I left them until about Dec. 15 on the summer stands and then had to move them about 4 miles. I am wintering them out-doors protected on the north by a board fence packed between and on top with flax straw. They have consumed so far an enormous amount of honey, owing, I suppose, to the weather. They have had 4 good flights since I moved them, the last being yesterday, Jan. 14.

Last season being my first year with bees in this State, and bees being new in this locality, I think they did fairly well, giving about 30 pounds surplus, as I worked them mostly for increase. J. E. BOWDER.
Huron, S. D., Jan. 15.

Watering Bees.

To water an apiary of 200 to 300 colonies of bees, I take an inch board 12 feet long, cut shallow grooves in it, crossing diagonally; nail a piece of 1 x 2 inches on each edge, bore a couple of holes at one end, run a wire through the holes and bang one end to a hydrant, and the other end raise so as not to have too much fall. Then I cover the whole surface of the trough with gravel ¼ inch deep. You can then turn on a small stream adjusted so that little or no water will go to waste, and you have a place where all your bees can drink and not get drowned nor chilled. No need to bother about the old watering-place, the bees will find the place fixed for them, at least they do here. G. F. MERRIAM.
San Marcos, Calif., Dec. 6.

[While this plan is not entirely new, it will be new to some.—EDITOR.]

Season a Failure in Nevada.

In the fall of 1906 I had 122 colonies, but the loss during the month of June, 1907, reduced the apiary to 56 colonies, and with the few swarms 59 colonies went into winter quarters in splendid condition. Then I bought an apiary and but 63 colonies of them went into winter quarters. I fear they are a little scant on stores. The condition of the whole is fair.

Mr. Doolittle says it is much more pleasant to tell of successes than of our failures, and I very heartily agree with him. However, we had a failure last year in Nevada (which is my home), and I hope we have learned something that will be helpful should we ever have such another season. One thing I learned —I shall always try to have a supply of sealed combs of honey.

I have been among a number of bee-men in the State, and have not met one good report. The spring opened up beautifully, with every appearance of a bumper crop until the month of June, when it turned to bad, stormy weather, with snow and freezing temperature, cutting off all resources and confining the bees strong with brood and young bees, and no stores; though many colonies seemed to go under from no other cause than bad weather. The past season was indeed poor, but bee-keepers are a cheerful lot, and I hope we will all have bright, cheerful reports the coming season. J. E. PATTON.
Lafayette, Calif., Jan. 21.

Will Work for Honey Next Year.

I started in bee-culture in 1905, having some good instructions. I had one colony in an old-fashioned hive, and seeing some of the movable-frame hives, I made a few and transferred 3 colonies in one hive, and lost them all. I bought more and kept on till in the fall of 1906 I bought one colony of leather-colored Italians, and worked for swarms. I got 2 good swarms and have them all now in good shape. I have in all 17 colonies in 8-frame hives. I am going after honey this year. I secured from my first swarm last year, 72 pounds of section honey. I don't want so many swarms next season.

I would like to know what is the very best bee for honey. Is there any kind that will beat the leather-colored Italian at building up or storing boney? W. J. H. FREE.
Cedartown, Ga., Jan. 18.

Bees Doing Well.

I wintered 21 colonies in 1906-07 and lost none. February was very warm. Fruit bloomed a month too early. The wind blew so that bees could not work. They had only 2 days of fruit-bloom, then the freeze. Alfalfa was cut by frost so the first crop was late and poor. I had a good many frames of honey which I gave to the bees, and then fed in supers in perforated feeders until June 10, when the honey-flow commenced, and it was a great flow. I harvested 65 cases of honey, besides saving a good deal to feed back next spring if I have to feed again. I had only 4 swarms. The bees are doing nicely this winter. There has not been a day so far that they have not been out at noon. We winter them on the summer stands in this country.
E. C. WRIGHT.

Montrose, Colo., Jan. 22.

Bee-Keeping in Kansas.

I send some photographs, the one being a partial view of my apiary of 100 colonies in winter. It was taken Dec. 19, 1907. There was a warm snow of about 5 inches, and ever since then we have had open, warm weather.

WINTER VIEW OF THE APIARY OF J. J. MEASER.

The bees are apparently in fine condition. The past season was a very poor one for honey.

There was too much late freezing and cold weather, although the after part of the season was very good and a fine flow of excellent honey was produced, mostly from sweet clover and alfalfa, which sold at a fair price—16¼ cents for comb and 10 cents a pound for extracted.

The other photograph is a partial view of the honey exhibit at the Kansas State Fair, held at Hutchinson, Kans., Sept. 16 to 21, 1907. It was one of the finest and largest exhibits ever shown in Kansas, being admired by every one who saw it, and a great deal of interest was taken in the matter of bee-culture. This is only the beginning of the bee-industry in Kansas. It has a great fu-

American Bee Journal

ture for us. We hope to have a much finer exhibit at the next State Fair.

J. J. MEASER.

Hutchinson, Kans., Jan. 13.

Pattern After Successful Bee-Keepers—Bulk Comb Honey.

First, I wish to give credit to the American Bee Journal for the most of my success the past year, if you would call it a success. And I think 70 pounds average per colony a very nice success. It is very essential for a novice like me to pattern after those who have been

J. J. MEASER'S APIARIAN EXHIBIT AT THE KANSAS STATE FAIR.

successful, such as Hilton, Doolittle, Root, Alexander, and many others. I run my yard for comb honey. But I use an extractor to a great advantage. I fill the honey cans about half full of nice, white capped comb honey, then pour extracted honey over this till the comb rises to the top of the can. This I sell for first-class comb honey. All combs that are a little dark go to the extractor. Hence my honey is all first grade. My fall honey, or red honey, is set away and put back in the hives in the spring. Every 10 pounds of red honey put in the hive in the spring is 10 pounds of white honey assured.

G. F. JONES.

Elkin, N. C., Jan. 20.

Poorest Season in Years—Mild Winter.

Last season was very poor. I had 65 colonies, and got only about 80 pounds of honey from the whole apiary. I had to feed about 700 pounds of sugar last fall for winter. My bees did as well as any around this section. I did not get any swarms last summer; it was the poorest season in many years. We are having a very mild winter so far, not much snow. The bees had a flight Jan. 21. I hardly know how they will winter. I expect there will be a big loss in bees this winter, but I live in hopes that we will have a good season in 1908.

GEO. H. ADKINS.

Ticonderoga, N. Y., Jan. 24.

Honey Crop Total Failure.

The honey crop in this locality for 1907 was a total failure. I fed back to the bees what little honey I got, with 13 pounds of sugar syrup per colony extra. Quite a number of bees in this part of Ontario starved to death right in midsummer, but that was mostly among farmer bee-keepers. But we are looking for a crop next summer. We can not tell anything as to the prospect at present.

Westbrook, Ont., Jan. 13. A. M. BRIDGE.

Mr. Alberts Bees and Bee-Paper Companions.

The pictures which I send were taken the second year after starting with bees. The first swarm of this apiary was hived by the roadside near my home, in a box. Afterwards I got a movable frame hive and sent a dollar for the American Bee Journal the same day, and the two—bees and Journal—have been close companions ever since, as I think I could not well get along with one without the other, and being a lover of honey, I would not be without a few bees at almost any price, although the honey-business is a little like the money business at present—a little in the dark. But thanks to the American Bee Journal for enabling me to operate for honey so as to be much above the average the past year in this locality; while my average was 25 pounds of comb honey, many others and some who have kept bees over 30 years, had less than 5 pounds per colony.

My bees had a flight December 13 and 27th, and the 29th I put them into the house-cellar, where they usually winter well.

The accompanying picture is that of one family at least who is interested in apiculture. They are all there except my good wife, who made the exposure without breaking anything, and who also takes an active part in the apiary in my absence. The apiary is pretty much in the shade of the old apple-trees, facing the southeast. The north end of it may be seen back of "Charlie" and "Dewey," who seem to think they hear a swarm.

CHAS. ALBERTS.

Sun Prairie, Wis., Jan. 24.

[See the first page for the pictures.—EDITOR.]

Many Bees for Much Honey.

I have been in the bee-business 9 years. I began with one weak colony in a box-hive, which was the nucleus of the apiary I now have. I think I have advanced by leaps and bounds. I have learned that in order to get much surplus, the colonies must be strong in bees. Therefore, I have kept down increase as much as possible. My object has been honey, not increase. I produce comb honey only. So far we have a home market for all we produce. The season is short and our main crop is buckwheat honey.

J. E. KLINE.

Indiana, Pa., Dec. 30.

Bees Did Well.

My bees did well after cold weather was over, in 1907. In April I lost 2 colonies out of 6, and increased to 12 colonies. I secured 222 pounds of comb honey. A colony whose queen I bought in July produced 48 pounds of comb honey.

J. C. CUNNINGHAM.

Streator, Ill., Jan. 29.

More Bees or Better Yields—Which?

The above subject, by G. M. Doolittle, attracted my attention as I started in bee-keeping by taking bees on shares, and have advanced step by step, knowing no limit, adopting Hutchinson's idea before he advocated it so strongly. I have figured that if it pays to keep 200 colonies in one yard, that I could with the same extracting outfit, by hiring more help, keep 2000 colonies of bees in 10 yards, and I have proved it by actual experience.

In our large alfalfa fields in the Southwest, surrounded by mesquite and desert flowers, it is possible to add out-apiaries, being governed by the amount of reliable help for handling the crop, as the amount of nectar to be gathered when conditions are favorable is almost unlimited; while during a poor season, my 10 yards average as much per colony as my neighbors' who have but one yard. It is true our honey-flow is prolonged for many months, and does not usually come with a rush.

Mr. Doolittle's argument might fit overstocked portions of the East, but does not apply to bee-keeping in the Southwest.

B. A. HAOSELL.

Buckeye, Ariz., Jan. 20.

Loss of Queens in Mating and Superseding—Improvement of Bees—Catalpas for Apiary Shade.

We had quite a heavy loss of young queens the past season. It came about by the young queens not being able to locate their own hives. Our apiary is located in a peach-orchard. The trees were nearly all killed by the frost in October, 1906, and were cut down last spring, which left an open lawn with hives in pairs, all painted white, 75 in number, which rows about 9 feet one way by about 5 feet between the 2 hives the other way. I know this loss of queens came about by their not being able to locate their hives, as it is the first loss we have had along this line to amount to anything since our bees have been here at this farm, which is 5 years. It has given light on one point which is worthy of note; that is, these young queens were reared by the colonies to supersede the mothers which were nearly all 3 years old last season. The bees did their own superseding. I now believe that a queen should have her head pinched off when 3 years old, unless she is a choice breeder, and even then it is a very good plan to look for failing queens at any time, and fill their places with young queens of choice stock.

In selecting a queen-bee, first, she must be prolific and the mother of industrious workers. If this colony produces the most honey and are first-class comb-builders, and gentle to handle, and winter well, there is no use to measure their tongues, but call them the best. Who sells the best queen-bees? Answer: It is not the person that handles the cells a great while before the queens are due to come out of the cells. How do you tell who sells such queens? Answer: Such queens are not prolific. As I buy a good many queens each season and introduce them into 12-frame Langstroth hives, I have a chance to know, and as Dadant has well said, "A queen must have a good size hive in order to find out if she is prolific."

To test queens for breeders: Last summer I bought a lot of leather-colored queens from one of the most noted queen-breeders in the United States, as well as golden queens from another noted queen-breeder. All these queens are wintering on the summer-stands to test hardiness, and next season will be tested carefully for honey, gentleness, etc. The best will be used for a breeder in 1909. These are what are known as American Italians. So far the best and most profitable queen I ever owned first saw the light in northern Italy.

We have just set out about 40 catalpa shade-trees in the apiary. The trees are set about 9x10 feet apart and will be kept trimmed up high enough to let the morning sun shine in on the hives, but make a nice shade in the heat of the day.

C. A. BUNCH.

St. Joseph Co., Ind., Dec. 26.

Bad Spring—Good Fall Flow.

Bees came through last spring in bad condition owing to lack of stores, the continued cold weather and lack of bloom, it having been killed by the late freezing. So bees scarcely got a living until early buckwheat began to bloom. Then they began to gain a little in stores until the first of September, when the fall weeds began to yield in good earnest so I got an average of 70 pounds of fine honey to the colony. Good for a fall flow. So the bees have gone into their winter quarters in fine condition, with 45 pounds of good, sealed stores for their share.

A. J. MCBRIDE.

Mast, N. C., Nov. 4.

American Bee Journal

Poor Season—Effect of Low Grade Honey.

Acting on your suggestion for these long evenings, I thought I would write something of the way I see things in the bee-world. We have just closed a season in which many of us producers had to tie on up our purse-strings early in order to make sure of having a winter's supply and take us to the season when we can again hear the happy buzz of the loaded home-coming bee.

Our past season has been a severe one all over the country with the exception of a very few favored localities, but I am sure that no bee-keeper was troubled with an over-surplus of funds after having divided up with the supply-dealers and other leakages which, in the nature of things, can not be avoided. But some say that we have the consolation that honey is selling at a high price. However, that at the present, is of no value except to stimulate one's ambition for the future. Yet how quickly will the price come down if we should have a fair crop next season with our greater number of producers who read no bee-papers, and rush their honey o the market in every possible form—good, bad, pell-mell, 4 grades in one honey-box, swelled and lean sections, sometimes stacked in the wagon-beds and soap-boxes, and sections that have been on the hives for 2 or 3 years, loaded with propolis, dark and unsightly of ocurse. One will naturally say that's honey brought to the market in that condition can never get the first-class price. Well, of course not. But what effect has that kind of honey on the market both in price and in the increase of the demand. It is true that I have had only 12 years' experience in selling honey, but I made it a business to learn the market and its tendency, with effect of quality and neatness of appearance. And I say that I could now sell 50,000 pounds of comb honey in our two cities, Argenta and Little Rock, with less trouble and labor than when I produced only 1,200 pounds. But one may think that I am the only producer tributary to this place. No, there are many, and just because I am the many I have gained my experience in the effects on the market of a product that is not up to a certain standard.

The quantity of honey consumed is the real stimulant of the market; the greater the consumption the more demand there is for the article, and consequently better prices are paid. Well, there is nothing new in that, but how about increasing the consumption? We simply must place it before the people in an attractive way, and within reach of the consumers. When I first went on the market there were 5 houses that sold comb honey in our city. Now there are hundreds selling comb honey, and our whole community is now in reach of comb honey. I had to convince every grocer that he could sell comb honey as well as he could a bar of soap and I left a box of honey in his store against his protests, and pissing that I would come after it in one or 2 weeks, assuring him that it would cost him nothing if he could not sell it, and I never had to take back a single box, and invariably took up the empty box and replaced it with a full one, and the cash would come without asking for it. Now, every grocer keeps comb honey. It is placed in reach of all, and as a rule the temptation to take a bite of the sweet morsel is hard to resist, and the result is an increased demand and a splendid market.

The small grocer on the outskirts of the city is the best customer for lower grades of honey. I have my customers and my three grades of honey. The grocer that buys the 12½-cent grade flatters himself that he can undersell his bigger competitor. I have customers that say they want the 16-cent grade, others want the 15-cent grade, and others will have nothing but the 12½-cent.

I mentioned something of the effects of a low grade of honey on the market, or on the consumers. I have always noticed that the grocers who bought a low-grade honey had trouble to dispose of it. His customers complained, and in many cases he lost them. This makes it very unpleasant, and what raking the producer gets when he comes back to his grocer. His honey may be dark, may be bitter, may be what is called "honey-dew," and the producer may know all about the defects of his honey, yet will offer to sell it as a prime article, write the name on the box, "Fancy," put a few sections of fair honey on the glass end of the box, with no other desire than to get it off his hands, which is deception and dishonesty.

No later than last spring several thousand pounds of so-called "Fancy" honey were shipped to our market just before our honey was ready for market. This honey in appearance was splendid, but it was the rankest kind of white outside, black inside, well-filled sections of honey-dew I ever saw. A number of my customers had a supply of it and have it yet. Some of them put some in a wagon to get rid of it. One of my customers who bought 800 pounds of me the season before, bought 100 pounds of this white outside, black inside honey a few days before I went to him June 12th. He said, "I had given you up and thought you were not on the market this season, and I bought some honey of a commission man, and they nearly all bring it back," and he reached behind the counter and brought out a section of this white outside and black inside honey. I told him to put in some of my clear honey or he would lose all his customers, and sell his black honey only to customers who call for it, and the result was the last week of November he had 3 boxes of his black honey left. He sold only 200 pousds of my honey, and 24 pounds of black honey, whereas last year he sold 800 pounds of my honey. The case of this merchant was the rule with all who bought this dark honey, and for a while it was hard to sell honey, and only late this fall had the effects disappeared. Honey of a low grade should never be put on the market, and should be used for no other purpose than to make bees. It is valuable for that purpose only, and ought never to go on the market, because of its demoralizing effect and its deceptions.

I would like to ask a question, which is this: Is there any bee-man anywhere that will eat a section of white on the outside and black inside honey in preference to one of a clear and fine flavored one? Let all those that are in favor of white outside, black inside honey, make it manifest by saying, "Aye." I am sure that there will be a light vote on this side of the subject. And I do hope that the disposition to feed others on something that one won't eat himself will also rapidly lessen; and do unto others as you wish others to do unto you. A BEE-KEEPER FROM ARKANSAS.

Comb and Extracted Honey from Same Super—Maple Honey.

I am, as you might say, only a beginner in the apicultural field, having had bees 3 years. But they are my sole study, and have been ever since I had them. And I studied "A B C of Bee Culture" before I had a bee.

I will speak principally of the sectional hive and the production of comb honey, or the production of comb and extracted honey from the same super.

Last spring E. D. Townsend wrote an article for one of the bee-papers, about comb and extracted honey from the same super. And I agree with him. I worked on his principle. Only I used it mostly with the 8-frame Wisconsin hive. However, I think I will adopt the sectional hive another year altogether. It is so much easier and handier to manipulate.

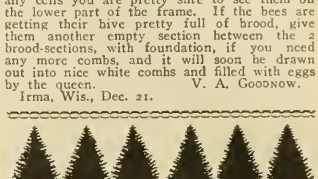
If you have any light or medium light colonies before the honey-flow, how easy it is to take a section from some strong colony that is boiling over with bees and place on the light one. For a strong colony that came out of the cellar in good condition will have 3 sections of a sectional hive full, or nearly full, of brood before clover blossoms, and a very good queen will have some in the fourth section if there hasn't been much honey coming in so that the top section of the hive is pretty well filled.

In my locality I get a good flow from soft and hard maple, willow, dandelion, and wild cherry, so as to time to make brood-rearing go on a-booming, and last spring I got quite a lot of surplus from that same source. And part of the people that I sold to liked the maple honey better than clover. But I am running away from my comb and extracted honey from the same super.

Now, this spring flow I have is a fine thing to get nice, little combs drawn out in the supers by which to work this plan of comb and extracted from the same super. And if you have some of those little frames filled with honey from maple, it can be extracted if a person wants nice white clover when the clover flow comes, and the empty combs can be put one on each side of the brood and the center filled with sections for comb honey, and you will get nice, well-filled white sections. They will start to store in the combs that are all ready for them in the little frames on the outside of the super where usually is the last place that work will be done if the super is filled with sections. But with this plan you can extract the honey out of these frames, and you have a lot of nice sections, too, and scarcely any that are not finished, unless it is a few the last of the flow. In this way I think it better even for extracted honey with the shallow frames, as you can give the bees room as they need it without giving them a great, deep super that is a great many times more room than they need, especially with light-colored colonies; and it will give more honey, extracted or comb, to the apiarist than any other super, even on a deep brood-nest.

But I think the sectional hive far outstrips anything in the bee-hive line in regard to swarming, too, as it can be manipulated so easily. If you want to look for queen-cells blow in a little smoke at the entrance and raise up the second section, and if there are any cells you are pretty sure to see them on the lower part of the frame. If the bees are getting their hive pretty full of brood, give them another empty section between the 2 brood-sections, with foundation, if you need any more combs, and it will soon be drawn out into nice white combs and filled with eggs by the queen. V. A. GOODNOW.

Irma, Wis., Dec. 21.



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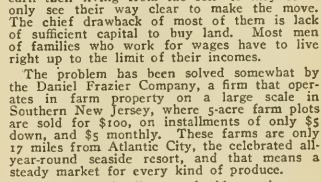
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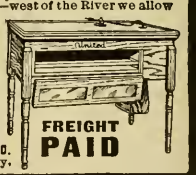

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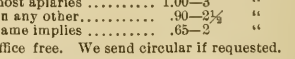

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Engravings For Sale

We are accumulating quite a stock of engravings that have been used in the American Bee Journal. No doubt many of them could be used again by bee-keepers in their local newspapers, on their stationery, or in other ways. Also, if we can sell some of them it would help us to pay for others that we are constantly having made and using in our columns. If there is any of our engravings that any one would like to have, just let us know and we will quote a very low price, postpaid. Address,

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American Bee Journal

Now Ready

The 97th edition of our catalog is now ready. If you have not received a copy and are ready to place an order for any supplies write for a copy. Our mailing list has over 400,000 names, so time is required to get the entire edition mailed. We explain this so any one may understand why a catalog may not reach him early.

The A B C of Bee Culture

When we announced the completion of the new edition late in 1907 there was a good deal of satisfaction to notice the big bunch of orders on hand, although we did regret the unavoidable delay in getting the books to some customers who had waited patiently for months. Over two thousand copies of this edition have already been sent out. We believe all urgent orders have been filled. We felt that the change of price to $1.50 postpaid might cause a little slackening in the demand. Not so, however, for in all our experience the orders never came faster.

We have also of the English edition a half leather at $2.00 and full leather at $2.50, postpaid.

German Edition, A B C der Bienenzucht in paper covers, $2.00. Cloth-bound at $2.50 postpaid, to any country.

French Edition, A B C de L'Apiculture, cloth-bound, at $2.00, postpaid, to any country.

Gleanings in Bee Culture

If you haven't seen a late copy of Gleanings you can't tell from any brief description how really magnificent it is. There are many valuable departments, and our subscribers just at this season of the year are telling how much they appreciate the paper.

Each issue is very fully illustrated. The covers are done by the finest engravers in Chicago, and our writers are the best in the land. Besides dozens of writers of prominence whose names we can't even mention for lack of space, we have such men as Dr. E. F. Phillips, U. S. Dept. of Agriculture; Dr. Edward F. Bigelow, Associate Editor St. Nicholas; F. Dundas Todd, former Editor Photo-Beacon; Allen Latham, Connecticut; etc.

A trial of six months (12 numbers) costs 25c. If in addition to your own subscription you secure others for six months keep 10c on each one for your trouble. A liberal cash commission to those who do canvassing for us.

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For large apiaries, or where the honey comes with a rush and labor is scarce, you should investigate our power machines. A circular of these will be sent on request.

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of the different grades and kinds. If you have any to dispose of, or if you intend to buy, correspond with us.

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Beeswax Wanted

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CINCINNATI ...OHIO...

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Honey and Beeswax

CHICAGO, Feb. 4.—The market is unsatisfactory. The stocks are quite large of both comb and extracted, and prices are continually receding. We are, however, hoping that this month will bring a demand that will help clean up consignments that have accumulated. The top price for white grades of comb is 16c; off grades are anywhere from 1 to 5c less. There is a demand for basswood and white clover extracted at 9c per pound, but other grades are more difficult to place at from one-half to a cent less. Amber grades range from 6 to 7c. Beeswax 28c. R. A. BURNETT & CO.

DENVER, Jan. 15.—The local demand for comb honey is light at present, and we do not expect much improvement in the near future. We quote No. 1 white, per case of 24 sections $3.25 to $3.50; light amber and No. 2, $2.75 to $3.00. We now have a good stock of very fine extracted honey which we offer at 9 to 10c for strictly white alfalfa; light amber 8 to 9c; strained amber honey 6 3-4 to 7 1-2c. We are paying 22 to 24c for clean yellow beeswax.
THE COLO. HONEY-PRODUCERS' ASS'N.

CINCINNATI, Jan. 13.—There is absolutely no demand for either extracted or comb honey at this writing. Lower prices would be no inducement to the buyers, and a waiting game must be played until the trade calls for this commodity. We offer amber extracted honey in barrels at from 6 to 7 1-2c; fancy table honey from 9 to 10c in 60 lb. cans. Fancy comb honey 16 to 18c. The above are our selling prices. We are paying 28c per pound cash and 30c in trade for good to choice yellow beeswax free from dirt, delivered here. THE FRED W. MUTH CO.

KANSAS CITY, Mo., Feb. 4.—Receipts comb honey are more liberal, and prices lower. The demand is light for both comb and extracted. We quote: No. 1 white comb, 24-section cases, $3.00 to $3.10; No. 2 and amber $2.75 per case; extracted, white, 8 to 8½c; amber, 7 to 7 1-2c. Beeswax, 25c.
C. C. CLEMONS & CO.

NEW YORK, Feb. 5.—There is but very little demand for comb honey, and that for fancy grades only. While there is no overstock there is sufficient supply to meet all demands, if not more. Off grades of white honey dark and mixed are neglected and very little call for. We quote: Fancy white 15c; No. 1 white, 14c. Off grades and dark, 10 to 12c, according to quality. The demand is fair for nearly all grades of extracted honey, but receipts are quite large and prices are somewhat declining. We quote: White sage, 8 1-2 to 9c; light amber, 7 1-2 to 8c; dark, 6 1-2 to 7c. Beeswax market is very dull—very little demand—but prices declining. We quote from 28 to 30c, according to quality. HILDRETH & SEGELKEN.

PHILADELPHIA, Feb. 3.—Sales of honey have been quite active in this market. We quote: Fancy comb honey, wholesale, 17¼ to 18½c; No. 1 white, 16 to 17c; amber, 14½c; extracted honey, water-white, 9 to 9 1-2c; amber, 8c; dark, 7 1-2c. Beeswax, 30c. We are producers of honey and do not handle on commission. WM. A. SELSER.

TOLEDO, Feb. 4.—There is practically little change in the honey market, owing to the hard times. Fancy comb honey sells very slow at 17c; dark grades 15 to 16c, in a retail way. Extracted, fancy white, in 60-lb. cans, brings 9c, with no demand for darker grades. Beeswax, 26 to 28c.
GRIGGS BROS. & NICHOLS CO.

CINCINNATI, Feb. 4.—The market on comb honey is exceedingly slow. Prices are no inducement to force sales. No. 1 white comb honey is selling slow; retail 16c. The market on extracted for manufacturing purposes is slow, ranging from 6 to 6 1-2c in barrels. No white clover to offer. White sage is 9 1-2 and 10c. Beeswax, fair demand at 32c. C. H. W. WEBER.

INDIANAPOLIS, Feb. 4.—Demand for best grade of extracted honey is good, while the demand for comb honey is not brisk. Bottled honey in retail groceries is selling slowly, for two reasons—dull times, and also from the fact that some bottlers have been putting out a very inferior grade of honey. Jobbers are offering the following prices, delivered here: No. 1 and fancy comb, 16 to 17c, net weight; extracted white clover, 9 to 10c; amber honey in barrels, 6 to 6 1-2c. Beeswax 28c cash, or 30c in exchange for merchandise. WALTER S. POUDER.

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Thousands of pounds sold to the bee-keeper direct or worked up for him out of his beeswax.
The *dealer* likes *Dadant's Foundation* because the bee-keeper likes it.
The bee-keeper likes it because his *bees* like it.
The *bees* like it because it is exactly like their own comb—so *pure* and *sweet* and *clean.*
Dadant's Foundation is the Standard because it is the *best.*
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Double Your Colonies

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Get Ready Now for More Honey

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No. 3

March, 1908

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AMERICAN BEE JOURNAL

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THE AMERICAN BEE JOURNAL

PUBLISHED MONTHLY BY

GEORGE W. YORK & COMPANY

118 W. Jackson Blvd., Chicago, Ill.

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2d.—To protect and defend its members in their lawful rights.

3d.—To enforce laws against the adulteration of honey.

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The new 1908 catalogue referred to above, gives a description of this corn and all of their other specialties in flower seeds, garden seeds, etc. Mention the American Bee Journal when writing.

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As Dr. Miller gets a royalty on his book—so many cents on each copy sold—every bee-keeper who buys it is thus helping a little to repay him for his effort to lead others to success through his writings on bee-culture.

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GEO. H. REA, Rt. 2, Reynoldsville, Pa.

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GEORGE W. YORK, Editor | CHICAGO, ILL., MARCH, 1908 | Vol. XLVIII—No. 3

Making More Bee-Keepers

We have received the following letter from one of our Michigan subscribers:

EDITOR YORK:—I am a bee-keeper and a subscriber to the American Bee Journal. Believing that you have no ax to grind by selling supplies, I would like to ask a few questions.

I see so much in another bee-paper about Prof. "Bugaboo" teaching people how to keep bees. Knowing that he isn't paid by the producers of honey, I would like to know who "feathers his nest" for him. It must be some bee-supply dealers. Of course, he is a curse to the bee-keeping industry. If people believe one-half that he tells them, he would turn out about ten thousand new bee-keepers every year, and in 5 years honey wouldn't bring over 5 cents a pound. The supply influences the price. We have that illustrated every few years. It doesn't make any difference whether it is potatoes, sheep, cattle, or some other produce, if everybody goes into the business the price flunks.

There is no other business in which men are hired to run all over the country to boom. I think the National Bee-Keepers' Association would better wring Prof. "Bugaboo's" neck, if they want to keep up the price of honey. If it is the bee-supply dealers who are booming the business we want to know it.

This letter is the sentiment of all the bee-keepers in my locality. I wish you would print it in the American Bee Journal. EDWARD CORWIN.

Dowagiac, Mich., Jan. 8.

You are right, Mr. Corwin, in thinking that the American Bee Journal is entirely independent of any bee-supply business. It is interested only in the spread of the best literature among the bee-keepers through its own columns, and various most excellent books on the subject of bee-culture. We certainly have no ax to grind through selling bee-supplies, but of course we would like to see all of the dealers who patronize our advertising columns make a success of their business. If it were not for the advertising patronage the American Bee Journal certainly could not be furnished at 50 cents a year.

We are not certain that Prof. "Bugaboo" could do as much harm as you seem to think, even if he should be trying to make more new bee-keepers. In all probability not a large percentage would make a success of it, or stick to it for more than a year or two, but after having a taste of honey, they no doubt would make good customers for those who had stayed in the business of honey-production as a specialty. Of course, the beginners' outfits of supplies that they would buy might in one way be considered a loss to them, and yet the information that they might get in handling a few bees might be worth all the experiment cost them. Certainly the little honey that new bee-keepers might produce would not affect any market. About the only difficulty we can see in their starting and producing a little honey is, that they don't care anything about getting a fair price for it. However, their honey never gets very far from home, so that in all probability it does not affect the large city markets.

After having said this much, we would like to add that we know nothing about who pays Prof. "Bugaboo" for what you say he is doing. It may be that he has a good wad of money laid by so that he can spend most of his time in the way he seems to be doing, without much expense, and at the same time he may be a sort of "feeder" for the business of bee-supply dealers.

We might say that the American Bee Journal is anxious to get as many subscribers as possible, but it has never been our aim to increase the number of bee-keepers. What we have always wanted to do is to get every one who now has bees to subscribe for and read this Journal, so as to learn to produce the most honey in the best possible way. We also believe that the reading, up-to-date, educated bee-keeper will not be a detriment in the open honey market, but will be as anxious as the largest specialist to keep the price of honey up to where it ought to be. We think that if every bee-keeper who is now a reader of the American Bee Journal would try to educate his neighbor bee-keepers by getting them to read not only the American Bee Journal, but also the best books on the subject of bee-keeping, it would tend to the betterment of every one connected with the business.

If there were more local bee-keepers' conventions held, so that every one who has bees would be able to attend them and learn the best methods of honey-production, and also as to marketing, etc., who would doubt that in a very short time the bee-business would be put upon a more substantial basis, and the demand for honey be greatly increased?

Liquefying Extracted Honey

When heat is applied to extracted honey to liquefy it, it will be found that the center of the mass will remain solid long after the outer part has become melted, and the danger is that the outer part will become overheated while the center is melting. This danger is the greater, the lower the temperature of the whole mass when the heat is applied. If the entire lot be at the freezing point, the center may easily remain solid while the outer part has been spoiled by boiling. The plain suggestion is that we should have the mass warm before beginning to melt it. Let it remain in a room whose temperature has been raised to 100 degrees, or as near

American Bee Journal

as convenient to that point, until the whole mass has been warmed through to the center, and then a very little heat will melt the center. Indeed, it is possible that by leaving it in such hot air a sufficiently long time it may become liquid throughout without additional heat.

The foregoing sensible suggestion is given by R. F. Holtermann, in "Gleanings in Bee Culture," and to it might be added that when the quantity to be liquefied is small, the old plan of leaving it over the reservoir of a cook-stove for a number of days is excellent. It will warm and cool a number of times, but there is plenty of time for it to be warmed entirely through, and it can never become overheated.

Breeding Queens or Drones from Best?

On page 43, Mr. Scholl advises getting a few *good* queens, rearing young queens from the best one, encouraging drones from the rest of these good queens, and discouraging drones in all other colonies. With regard to this the following questions have been raised:

"Suppose I get 3 or 4 queens, how can I tell which is best? As we are told that the character is derived more from the father than the mother, would it not be better to breed drones from the very best queen, and queens from the others?"

If the 3 or 4 queens are all good, it is not likely that any one can select the best by merely looking at them. That can be told only by keeping close account of the work of the worker progeny of each queen, and then comparing results. That, of course, obliges selecting at random the first year; but in most apiaries that could not fail of improvement if the queens purchased be really good.

With regard to rearing drones or queens from the very best queen, better results might be obtained if drones were reared from the best and queens from the next best, *provided* one could be sure that no other but these best drones should meet the young queens. But as it is practically certain that a considerable proportion, if not a large majority, of the virgins would meet other drones, and as one can be entirely certain as to the parentage of the virgins, the advice of Mr. Scholl is eminently sound. Indeed, in most cases there would be a sure improvement by purchasing a single good queen from which to rear virgins, and discouraging drones in all but a few of the better colonies in the yard.

Prevention of Swarming

In one of his replies, Dr. Miller said something about discovering a plan whereby swarming might be prevented with very little time taken, and without ever seeing a queen. As he gave no particulars, and hinted something about a secret, it was left somewhat uncertain whether it was anything more than a joke. But the Doctor says there is no joke in the case, except as to the matter of secrecy. Moreover, he says he has practised the plan in a good many cases, and thinks it more reliable than the plan of shaking swarms, to which he much prefers it. Here is the plan:

"Just before danger of swarming, shake and brush into the hive all the bees from all combs but one, that one being one of the outside combs with the least brood, and put beside it 2 entirely empty frames—no starters—leaving the balance of the hive vacant; over this put an excluder and a second story with the brood, a dummy filling the vacancy, and then the supers. Ten days later (in several cases it worked all right with 7 days) remove the second story, returning brood and bees to lower story. A little comb will be found built into the 2 empty frames, which may be melted up or otherwise disposed of."

Only trial will tell whether the plan will work as well with others, but should it do so it will be a step well in advance. Over the plan of shaking swarms it has the distinct advantage that no brood is taken away. To be sure, there is a loss of the queen's laying for 10 days—possibly 7—but that is quite different from the loss of 21 days' laying when a swarm is shaken. Moreover, it is quite possible that there is compensation for the loss of the 10 days' laying, in the fact that during that time the queen has a real rest, for with nothing but the outside comb and the little comb that is built in the empty frames she can lay but few eggs. In the shaking plan there is no such rest. That rest may be an important factor.

We don't know whether this plan is Davenport's secret, but it fulfills the conditions. Now maybe Mr. D. will tell us all about his plan to prevent swarming.

Prolificness of Queens

Other things being equal, a queen which keeps up a large amount of brood is to be preferred. But if one queen keeps twice as many frames filled with brood as another, it does not necessarily follow that the one colony is twice as valuable as the other. Two important factors in the problem are to be considered. The less prolific queen may have workers of greater industry, so that her smaller force may do more storing. Her workers may live longer, so that with a smaller amount of brood she may keep up an equal population. On the whole, a pretty safe way to compare two colonies as to value is to compare the amount of surplus stored by each.

Feeding Bees for Winter

In the Canadian Bee Journal (page 5) is quoted the item headed, "Feeding Bees for Winter in Canada," on page 741 of the American Bee oJurnal, ending with the question, "After reading these three varying views from three authorities, and all under the same cover, is it any wonder the beginner should feel somewhat dizzy?" Then Editor Hurley remarks:

"Editor York has done us a service. Differing conditions make it impossible to lay down any hard and fast rules. Let us suppose Friend York had added his opinion in a small paragraph at the foot of the above three, would the dizziness have been increased or lessened? It would have been very interesting to have seen it there."

More than one reason may be given, Mr. Hurley, why such opinion was not added. Please note that feeding in Canada was under discussion, and it might have seemed an impertinence for one dwelling under the Stars and Stripes to have intermeddled. Again, it would only have made the beginner more dizzy, and that seemed an unnecessary cruelty. For said opinion, based on the needs of this locality, would have been, "Don't feed at all." And then he *would* have been dizzy.

Please note, however, that no question was raised as to the correctness of each opinion given, only to the divergence of views. And one of the first things the beginner needs to learn is that "differing conditions make it impossible to lay down any hard and fast rules." Along with that he needs also to learn that he must use his own head, and decide in each case whether conditions in his case warrant the following of any given rule. If the beginner in this locality were invariably to follow the rule to do no feeding for winter, it would cost him the loss of many a colony. For while conditions are generally such that a colony which has been strong enough to do super-work may be counted on to lay up from late flow a goodly store for winter use, there may be exceptions in dividual cases, and there may be years of failure.

Editor Hurley gives in detail the course of the season in his locality, breeding keeping up continuously, the season ending with a buckwheat flow. The same thing occurring here, the expectation would be to find hives well stocked for winter, with no need of feeding. But if he finds it a fact that it is necessary to feed, it's hardly worth while to dispute facts. There may be a difference in bees, some crowding honey into the brood-chamber more than others. Very likely Mr. Hurley's experience is with extracted honey, while in this locality comb honey prevails, and it is well known that there is a greater tendency to crowd honey below sections than below extracting combs. On this point of difference the remarks of J. L. Byer, on page 13, are enlightening.

But the intention was not to enter into any general discussion of the subject of feeding; rather to emphasize the point that while the wise bee-keeper, whether beginner or veteran, will learn all he can from others, he will at the same time not fail to do his own thinking.

Honey as a Health-Food.—This is a 16-page honey-pamphlet intended to help increase the demand for honey. The first part of it contains a short article on "Honey as Food," written by Dr. C. C. Miller. It tells where to keep honey, how to liquefy it, etc. The last part is devoted to "Honey-Cooking Recipes" and "Remedies Using Honey." It should be widely circulated by those selling honey. The more the people are educated on the value and uses of honey, the more honey they will buy.

Prices, prepaid—Sample copy for a 2-cent stamp; 50 copies for 70 cents; 100 for $1.25; 250 for $2.25; 500 for $4.00; or 1000 for $7.50. Your business card printed *free* at the bottom of front page on all orders for 100 or more copies. Send all orders to the office of the American Bee Journal.

American Bee Journal

Death of Mrs. F. Danzenbaker

We received a letter from Mr. F. Danzenbaker, on February 24, saying that his wife was stricken with Bright's disease of the kidneys which ended in death, February 13. We are sure that Mr. Danzenbaker has the sincere sympathy of all our readers, in his bereavement.

Four Deaths in One Family

The Medina County (Ohio) Gazette, of February 14, contains the notice of 4 deaths within a week in the family of W. K. Morrison, assistant editor of Gleanings in Bee Culture. Mrs. Morrison and a 2-year-old son died of pneumonia, the other two being twin babies that died at birth. The 3 children were all laid to rest in the same casket on Saturday, while the mother passed away on the following Monday.

The Morrison family came to Medina, Ohio, two years ago, from Porto Rico, Mrs. Morrison being a native of Bermuda. Mr. Morrison was born in Ohio, but had lived in the West Indies most of his life. Six children between the ages of 2 and 18 are left motherless, the oldest being a daughter, who at the time was dangerously sick with pneumonia. The sincere sympathy of all will go out to Mr. Morrison in his deep sorrow.

A Pair of Corrections

We have received the following from Dr. Miller:

MR. EDITOR:—While commending the American Bee Journal for having reports so generally correct, I want to call attention to a pair of errors on page 50. I am there made to say "that bees should be put into the cellar the day before the last day that is fit for them to fly in the fall." That would be a very foolish proceeding. The advice will be all right if "the day before" is changed to "the day *after*."

At the close of the same page occurs: "Dr. Miller said the bees ball a queen to protect her." Generally there is no thought of protection, but just the contrary. The whole discussion is misleading, because the question reads, "Why Do Bees Ball Queens?" It should have read, "Why Do Bees Ball Their Own Queens?" C. C. MILLER.

We are always glad to correct anything that is of importance and that might be misleading to beginners. The American Bee Journal would like to have everything right in its columns, and thanks any one for pointing out real errors, such as Dr. Miller calls attention to in the foregoing.

A Bee-Keeper's Complaint.

Winter—cold the wind is blowing, and the air
  is full of snow
And the shrouded trees and fences stand like
  melancholy ghosts;
And the winter demons shrieking in the roaring
  winds that blow
Fill the earth with desolation with their
  chilling, killing frosts.

Grass and herb and leaf and blossom, fruit and
  beauty—all are gone;
Death now plays his solemn dirges on the
  bending leafless trees—
And our hungry hearts are longing for the
  glowing summer sun
And the song of lark and robin and the
  humming of the bees.

Say, you man who lauds the winter, what's the
  matter with your mind,
That its sympathies can leap so nimbly out
  to meet the cold,
When its icy fingers throttle everything of living kind,
And in frozen sheets of ermine, Beauty's
  corpse is coldly rolled?

Look upon the bud and blossom, then upon the
  naked bough,
Breathe the perfumed air of summer, face
  the wintry winds that freeze,
Tell me, is the dismal stillness that pervades
  all nature now,
Better than the living summer with its song
  of birds and bees?

When we think of the Hereafter, do we think
  of ice and snow?
Of a wintry blizzard traveling forty—fifty
  miles an hour?
(Don't imagine I am planning for the regions down below,
Where the furnace fires are blazing and the
  eyes of demons glower!)

No, we think of endless summer, of a ceaseless bud and bloom,
An eternity of everything that most the
  heart can please;
Of a paradise of beauty, where cold death
  can never come,
Of a country always filled with joyous song
  of birds and bees.

Bellevue, Mich. C. H. BENSON.

"Uncle Joe's" Bee-Keeping Career

It seems from an article in The Delineator that the speaker of the U. S. House of Representatives had a career as a bee-keeper that was brief as brilliant. He had not enough money to begin married life till 1862, and even then was pretty poor.

"Joe took his mother's advice and began home-making 'in the good old way.' That consisted in building a house for himself and getting a cow, a pig and a colony of bees. The cottage was a little 3-room affair, and as for the live stock—let him tell it himself, as he often has:

'There I was, up against a real problem. I went out brave as life and tried to milk that cow. She kicked me off the stool. I tried to feed the calf and got butted into a hedge fence. Then I saw that the bees had swarmed, so I went to hive them,—the way my father used to do. I got bees inside my shirt and inside my trousers until I like to got stung to death. I hired a man, right away, to look after the stock. That was all that I wanted of them.'"

Two Queens with Clipped Stings

More than once it has been suggested that a plurality of queens might perforce live together if their stings were clipped. In at least one case it has been tried and found not a great success. Earl Bussey thus gives the particulars, in Gleanings:

"I took 2 queens and cut off their stings by folding the abdomen over my thumb-nail, and pressing, when their stings came out and were amputated. These stingless queens being taken from a double colony, one above the other, with excluder between, did not have to be introduced in the usual manner, so I turned them loose at once, each on an opposite side of the hive. In 2 hours I looked in, and on lifting out the third frame I saw the 2 queens come together, and right there I witnessed one of the fiercest battles I ever saw. The bees stood around like referees, forming a circle around a prize fight, and not one of them offered to interfere. But as a battle it was a bloodless one, so I left them until late in the evening, when, on looking, I found them still fighting. One of them seemed to be getting the best of the other, for she had gnawed off one wing completely. So I separated them by putting one of them below the excluder, and I may say that they are just as I left them, both of them having done good work the rest of the season, and seeming none the worse for the loss of their stings and their battle."

Italians and Blacks as to Diseases

As to paralysis, W. D. Wright, one of the New York inspectors, says: "It is more prevalent among Italian bees than blacks, although I have known of an apiary of both races to suffer from it."

On the other hand, referring to European foul brood, he says:

"For 5 years I have vigorously advocated thoroughly Italianizing all stock within or near the line of diseased territory, as an aid in subduing and prevention of the rapid spread of this disease. Some apiarists have naturally supposed that I had an ax to grind, and have inquired of me, if I had queens for sale. The leather-colored or 3-banded stock is the only strain that I would recommend for this purpose."

A Texas Apiarian Exhibit

Mrs. A. I. Davis, wife of the manager of the Southwestern Bee Company, of San Antonio, Tex., sends us the following:

EDITOR AMERICAN BEE JOURNAL:—

The picture on first page shows our exhibit at the International Fair, at San Antonio, Tex., Nov. 9 to 24, 1907.

This exhibit was not only the best and largest of any firm ever shown, but was the prize-winner, taking the diploma for honey, beeswax, and supplies.

The wall on the right shows row

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after row of bottled honey as we place it on the market, with hives in packages of 5 lined upon each side. This honey was bottled 5 at a time by a machine invented by Mr. A. I. Davis.

In the background can be seen different size bottles of honey in all forms; pure vinegar, made of honey and water; honey and tar—a much-used medicine made and put up by us; and fruit preserved in honey, which received first and second prizes, the judges saying it was the richest preserved fruit they had ever eaten.

The left wall, which can be seen but dimly, contains box after box of section honey piled to the ceiling.

In front can be seen our new, up-to-date, modern bee-hives, for which we received a diploma, as they are considered the best ones on exhibition, as judged by the largest and best bee-keepers in Texas.

MRS. A. I. DAVIS.

San Antonio, Tex., Jan. 27.

We have not yet forgotten the large and splendid apiarian exhibits at the San Antonio Fair in 1906. It certainly was a pleasant surprise to us, to see what great things those Texans could do in the bee and honey exhibition line. It was fine.

Honey from New York to Detroit

The United States Department of Agriculture has been doing some figuring lately, which results in quite a good showing for the honey-business. The figures indicate that the honey crop of one year in the United States, if loaded on freight cars, would make a train extending in a straight line from New York City to Detroit, Mich., and valued at $25,000,000. Not such a small affair, after all, if those "figures don't lie," as it is said some figures do, sometimes.

The National Convention in Detroit

Secretary Hutchinson sends the following description of the place of holding the next meeting of the National Bee-Keepers' Association, to which we do not feel that we could add anything:

The National Convention has not always been fortunate in its place of meeting. Sometimes it has been held near a noisy, dusty street, where the rattling of trucks over stone pavements, and the rumble of street cars, would often completely drown the speaker's voice. Again it has been held in some hot, close hall, up two or three flights of stairs.

We have not always been thus unfortunate. Some of the meeting places have been very comfortable and well adapted to our needs; but never, in its 40-odd years of existence, has the National Association met in a place so ideally perfect as the one chosen for the coming convention, to be held next October, in Detroit, Mich. It is the pavilion, or sun-palace, built by the Wayne Hotel almost expressly for the use of conventions. It is back of the hotel, away from the noise and dust of the main street, and extends down to the very edge of the Detroit river; where the traffic of the great lakes may be seen passing and repassing, at all hours of the day. At one side of the pavilion is a little garden, or private park, filled with beautiful flowers, lawns and walks. On the other side is Third Street, but it is paved with asphalt, which gives little sound; besides, the street ends at the river, and is not much used opposite the pavilion.

The pavilion is two stories high, and it is in the upper story where the convention will be held. The sides can all be thrown wide open, allowing the cool, river breezes to sweep through; or the windows may be all drawn down, if desirable. If the weather is cool enough to need it, steam heat can be turned on. In fact, we will be able to rid ourselves of noise, dust, heat or cold. We can sit at our ease, with the beautiful river at our feet, and the spires, chimneys, and wooded hills, of the King's domain (Canada) looming up in the distance.

Near the center of the pavilion, but somewhat to one side, is an enclosed space, perhaps 40 or 50 feet across, the sides mostly of glass, and extending from floor to ceiling. In this will be a capital place to exhibit honey, wax and supplies—near at hand, yet not right in the convention room, which sometimes causes annoyance.

All of these comfortable quarters will be *free*, with the understanding that we make our headquarters at the Wayne Hotel. The Wayne is a strictly first-class house—what some of us common folks might call high-priced. It has an unusually large office, or lobby, with two fire-places, or grates, as they are now called, marble floor and supporting pillars, with large, leather-bound lounging chairs and sofas—a delightful visiting place for us between sessions. Everything is quiet, orderly, and well managed—no more desirable stopping place could be found.

What are the rates? They run from $2.50 to $4.50, American plan—that is, including meals—but here is the bargain that we have made: They will take care of 150 bee-keepers at $2.50 per day, provided 2 will occupy the same room—and who ever heard of a bee-keeper at a convention who wished to be put off alone in a room, all by himself? In order to give this flat rate for so large a number, many rooms will be used for which the charge, ordinarily, is much higher.

Of course, no one will be compelled to stop at the Wayne, and there are other hotels within 2 blocks where 200 people, extra, can be cared for at from $1.25 to $2.25 per day. In these times, however, it is difficult, in a large city, to secure really desirable accommodations at much less than $2.00 a day, and when one has paid that much, besides several other dollars to reach the city, it seems foolish to allow a paltry 50 cents a day to stand in the way of joining the crowd, and being "one of the boys."

One thing more: The Michigan Central and the Big Four railroad station stands just across the street from the Wayne, while the Union station, used by the Pere Marquette, Wabash, and Canadian Pacific, is only 2 blocks away. The Grand Trunk and the Lake Shore and Michigan Southern station is several blocks away, perhaps 7 or 8, but is easily reached by street cars that pass the Wayne. The electric suburban car station is within easy walking distance—only 4 or 5 blocks.

The dates for holding the convention have been fixed on October 13, 14 and 15—at a time when the weather conditions in the North are usually ideal. The heat and dust of summer have past, and wintry blasts and snowdrifts are then in the distant future.

Flint, Mich. W. Z. HUTCHINSON.
Secretary National Bee-Keepers' Association.

A Plea for Spring.

Come, my charming pussy willows,
Shake again your fluffy pillows
In the lap of tardy spring;
Let me hear once more the wing
Of the Priestess Honey-Bee,
As she earns her marriage fee—
Claiming gold for every rite,
Whisper'd e'er she takes her flight.

Ye are first of all the cousins
To unfurl your flags by dozens.
Brave and hardy as an oak,
Every flow'r-bud wears a cloak,
March winds do not frigthen ye,
Mad and spiteful tho' they be.

Welcome, pussy-willow friends,
First to bloom when winter ends.
We shall hear the bluebirds sing
When ye tell them it is spring.

Forest City, Iowa. EUGENE SECOR.

Bee-Supply Catalogs Improved

We note in some of the 1908 bee-supply catalogs there is quite an improvement over those of preceding years. As compared with some of the incubator and poultry-supply catalogs that we have seen, the bee-supply catalogs have simply not been "in it" at all. So we are glad to see the attempts at improvement being made in the catalogs of bee-supply dealers.

Two of the most striking so far, that have come to our desk are the catalogs of the Gus Dittmer Company, of Augusta, Wis., and the G. B. Lewis Company, of Watertown, Wis. Both are very neat, indeed, and are gotten up in good style.

We don't see why bee-supply catalogs should have been so far behind some others for so many years. But doubtless as the industry of bee-keeping grows there will also be a notable improvement in the appearance of its current literature, although what little there is in that line we think compares quite favorably with the literature of most other pursuits—at least, it is as good as could be expected when the low subscription prices are considered.

We Commend Our Advertisers

We want to call particular attention to our advertisers. We believe, they are a clean, honest lot of people, else their advertisements would not be found in our columns.

We want especially to invite our readers to patronize the advertisers who use space in the American Bee Journal. It would be utterly impossible to publish this Journal were we to depend entirely upon the receipts from subscriptions alone. We wish our subscribers to help us to encourage those whose announcements are found herein, by sending them orders whenever it is possible to do so. We are desirous of increasing our advertising patronage, and believe it can easily be done if those who already use such space find that it is profitable to them. And the way to aid us to make it profitable is for all, so far as possible, to remember our advertisers when needing anything they offer to sell.

Be sure, always, to mention having seen it in the American Bee Journal when writing to any one whose advertisement you are answering that appears in these columns. It will help both the advertiser and ourselves.

Pan-Handle Bee-Keepers' Convention

The Pan Handle Bee-Keepers' Association will meet in Knights' Golden Eagle Hall, corner 38th and Jacob Sts., Wheeling, W. Va., March 25, 1908. The morning session at 10 o'clock, the afternoon at 1 o'clock; and the evening at 7 o'clock. The object of the Association is to promote and protect the interests of its members. All bee-keepers are requested to attend. Ladies are cordially invited.

Blaine, Ohio. W. L. KINSEY, *Sec.*

Michigan State Convention

The next annual meeting of the Michigan State Bee-Keepers' Association is to be held in connection with the National Convention in Detroit, October 13, 14 and 15, 1908. Secretary Elmore M. Hunt, of the Michigan Association, is making a systematic effort to increase the membership of his Association to 200 by the time of the meeting in October. Surely

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every bee-keeper in Michigan ought to join at once, as $1.00 will pay his dues for a year in both the Michigan and National Associations. Send your $1.00 to Elmore M. Hunt, Redford, Mich.

We are hoping there may be such a bountiful honey crop during the coming season that every bee-keeper who has the least inclination to attend the convention in Detroit will be able to do so. We would like to see it the largest and best meeting the National has ever held. Detroit is an ideal convention city, and the fact that it is located so near the Canadian border where there are so many excellent bee-keepers, would seem to insure the most representative gathering of bee-keepers of all America. Perhaps our California bee-keeping friends will be able to get together a special carload to start from Los Angeles. Of course they could pick up lots of big bee-keepers all along the way, so that possibly by the time they arrived in Detroit, they would have increased to a whole train-load. That would be making "increase"—not by division, but by the more natural way of "addition."

We may possibly be able to get a carload to start from Chicago, although, of course, the distance is hardly long enough to insure as enjoyable a time as was had when going from Chicago to Los Angeles or to San Antonio. But undoubtedly the Michigan bee-keepers will be able to make up for any shortage in enjoyment, after we all get there.

Northern Michigan Convention

The Northern Michigan Bee-Keepers' Association will hold its next meeting in Medalie Hall, Mancelona, Mich., April 8 and 9, 1908, beginning the forenoon of the 8th. The convention headquarters will be at the Handy Hotel, with a rate of $1.50 per day. A picnic dinner will be served at the Hotel on the second day of the meeting. The papers on the program are as follows:

"Producing Extracted Honey"—S. D. Chapman.

"Out-door Wintering"—Ira D. Bartlett.

"Why I Use the 12-Frame Hive"—J. N. Harris.

"The Certainties and Uncertainties of Honey Production in the Extreme North"—C. F. Smith.

"Deciding Which to Produce—Comb or Extracted Honey"—W. Z. Hutchinson.

"What is the Object of Holding Bee-Keepers' Conventions"—Hon. Geo. E. Hilton.

"How to Extract Honey with the Least Help"—E. E. Coveyou.

"Cellar-Wintering of Bees"—O. H. Townsend.

"Red Raspberry Honey: How Its Name may be Improved or Abused"—Geo. H. Kirkpatrick.

"Management in the Production of Comb Honey for Profit"—A. H. Guernsey.

"The Non-Swarming Hive"—L. A. Aspinwall.

Prizes for making exhibits are offered as follows:

Best Case Comb Honey—1st, Danzenbaker hive, nailed and painted; 2d, American Bee Journal one year.

Best 10 pounds of Extracted Honey—1st, Aspinwall Hive; 2d, Bingham Smoker.

Best 5 pounds of Beeswax—1st, Woodman hive; 2d, Bee-Keepers' Review one year.

Best New Invention for Bee-Keepers and Honey-Dealers—1st, 500 sections; 2d, "A B C of Bee Culture."

For further information address the Secretary, E. E. Coveyou, Petoskey, Mich.

Conducted by EMMA M. WILSON, Marengo, Ill.

A Living Hive-Lifter.

This from Mr. J. L. Anderson of Harvard, Ill.:

"Speaking of 'hive-lifters,' we have had one in use for 44 years. Is good yet. Perfectly adjustable to all conditions. Apparently good for a long time yet. It belongs to the 'genus biped.' Think every *lady* ought to have one. Don't you?" J. L. ANDERSON.

Well—now, Mr. Anderson, perhaps. Do you think they would *all* prove equally satisfactory?

Rats and Bees.

A rat can do a whole lot of mischief in a hive in winter, as well as mischief elsewhere, and any help towards getting rid of these unwelcome visitors will be welcomed by the sisters. Mrs. L. B. Shank thus reports in Gleanings in Bee Culture:

"A year ago we moved on to this place, and it was the worst-infested place one can imagine, and has been for the last 24 years that we have been acquainted with it. We were fully determined to get rid of the rats. We got four different kinds of traps, and then tried every thing we could hear of; and when you said 'rat biscuit' my husband laid in a supply at once; but they were like all the rest—just seemed to act like a tonic, and still the rats came. At last one of our hired boys told me he had seen a sure cure for rats, in a paper. I told him to tell me quick, as we were at the point of collapse. He said, pour syrup, or any thing the rats are fond of, on to a board and sprinkle with dry concentrated lye. As I had found the rats preferred nice, firm ripe tomatoes to any thing else I had on hand, I sliced up several about one-half inch thick, and placed in different parts of the house. In the morning they had eaten all I put out. The second night they ate half as much. The third night only a few pieces were gone. The fourth night they did not touch the tomatoes nor anything else, and we have not seen nor heard of a rat or mouse in the house since, about six weeks ago. A couple of weeks afterward Mr. Shank said there were as many as ever in his barn and granary, and he thought I had only driven them out to the corn; so I fixed the tomatoes the same as before, with the same effect. The third night was the last. We think it is truly wonderful to be without the horrible things, so we just concluded to let you tell others.

"Just sprinkle the dry concentrated lye (I use the Banner, as it is so handy) on the top of the tomatoes. Other articles may do as well."

Entrance Treatment of Robber-Bees.

Mr. Allen Latham says this in the American Bee-Keeper:

"I suppose that someone, probably many, will say that I am maltreating the truth when they read my next statement. But here goes:

"Last summer I stepped out to my apiary to find one of my colonies fighting robbing, and fighting it unsuccessfully. This colony had had its 13 by 1 entrance cut down to 4 by ⅜ because it was not over-strong. It was a hot day. I studied the situation a moment and decided upon a bold move. I pulled out the entrance-block, leaving thus the full entrance. 'Goodness!' I hear some one exclaim, the mildness of the word signifying that that person is of the sister's department in the 'Old Reliable.' But I did it. I watched a moment, and noted that the home-bees seemed relieved. Also noted that the robbers seemed confused. Apparently the robbers had lost the trail, for they no longer darted into the hive as they were doing a minute before. I went away and did not return for about half an hour. Upon my return I could not see any robbing in progress. Robber-bees still came about the hive, but every one which essayed to enter was severely and warmly received."

My goodness, gracious! is the man crazy? Well, after hearing his explanation there really seems to be some "method in his madness." He claims that contracting the entrance increases the strength of the odor at that point, the very thing which attracts robber-bees, and when he enlarged the entrance he lessened the strength of the odor, thus attracting the robber-bees. At any rate, he says it worked all right in this case, and it might in some others.

Here is a good kink that he gives by which he contracts the entrance without increasing the strength of the odor:

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"If you follow the advice to close the entrance to the exit of one bee at a time, then do this way: Cover the whole entrance with wire-cloth and punch a small opening through the cloth by working a pencil through. Though this is not an infallible kink, it is nearly always sucessful."

A Fine February "Swarm."

EDITOR YORK:—I thought I'd write and tell you the good news. Wednesday, Feb. 5, my wife gave birth to a fine pair of twins—both girls—and I tell you we're proud of them. If you can find a February swarm that beats ours, trot it out.

My bees in the cellar are wintering splendidly. GEO. H. REA.

Reynoldsville, Pa., Feb. 8.

[We referred the foregoing to Miss Wilson, as we felt that it properly belonged in the "Sisters" department. Here is her comment.—EDITOR]:

Two young queens in one hive! Let us hope they will get along more peaceably than young queens generally do together; and that you may be able to summer and winter them successfully many years.

Perhaps Queenless and Being Robbed.

I have 10 colonies. Last fall I bought an extra colony and the rest of my bees are determined to rob that new one. I think it is weaker than the rest. Every warm day the yard is in a perfect uproar. I have shut up the hive a number of times, then they try another hive. Is there any thing I can do to prevent robbing? I fear when warm days come they will rob the whole yard. I thought when winter set in that would end the trouble, but no such thing. Every warm day they are at it again.

(MISS) SARAH AUCHMOODY.

Highlands, N. Y., Route 4.

Are you sure your new colony has a queen? Bees are much more likely to attack a queenless colony. If queenless, it might be worth while to unite it with one of your other colonies, but usually a queenless colony that will not defend itself is not worth fussing with.

If it has its queen all right, try putting an armful of hay or straw over the entrance. Pile it up as high as the hive in front and at the two sides, but don't pack down too close.

That will allow the bees belonging to the colony to pass in and out, and give them a much better chance to defend themselves; and at the same time it will look to the robber-bees more like a pile of hay in which they are not interested.

Prevention of Foul Brood.

At the Ontario convention, Miss Trevarrow read a paper on foul brood. She frankly admitted that she had had no practical experience with the disease, so one might question her qualification for writing on such a theme, but her paper shows that she is by no means an ignoramus on the subject.

If it be true that "an ounce of prevention is better than a pound of cure," then it is well to know the means she has used to avoid acquaintance with such an unwelcome guest.

The gist of her means of prevention is given in the following paragraph taken from the Canadian Bee Journal:

"I have been keeping bees for years, and in that time my apiary has been examined 4 times by foul-brood experts, although the inspector has visited it only once in an official capacity. These years have given me 4 rules for the avoidance of foul brood. They are: To keep the hives clean, by renewal of foundation; to feed only pure white sugar syrup; to keep the colonies strong, and open to inspection. 'Easy rules,' some will say; but sometimes one is very loath to destroy a well-formed comb, when blackness and old age are its only apparent faults, and there is quite a temptation to see what a weak colony will do through the summer, rather than reduce the size of the apiary; and who would not hesitate a little at the thought of feeding all pure sugar, with a stock of low-price honey on hand that might be used if there were no danger of contagion, while a visit from the Foul Brood Inspector would inspire as much antagonism with some bee-keepers as is evinced towards inspectors generally."

Double-Wall Hives—Increase, Etc.

I am a beginner. I bought 2 swarms last June. The bees did not gather enough honey for winter supply. I fed them $2.00 worth of sugar. I keep them outdoors in Telescope hives. Is it necessary to use the double-wall hive in this locality?

How many swarms could I expect to get from the 2 next summer? I would not care to buy any more hives than I need until I know I can make the bees pay.

Is it necessary to get 2 supers with each hive?

Last September the bees in one of my hives threw out the young bees when they were just about ready to leave their cells.

I noticed that one of the young bees had a crippled wing. Could it be that the whole brood was deformed? Would you advise me to get another queen?

The comb foundation dropped out of one frame and the bees built the comb into this from the next frame. Shall I cut out the comb and give them new starters? (MISS) FRIEDA KLEIN.

Kansas City, Mo.

Double-walled hives are not necessary; but unless your bees are in a place well sheltered by surrounding buildings or other objects, all but on the south side, you should give the hives some sort of protection, if it be nothing more than to set some cornstalks around them.

If it should be a very poor season, you might get no swarms at all. In a good season you may get 2 swarms from each colony; and in a very good season you may have more. But the safer plan is to allow no more than a single swarm from each colony, especially as you do not wish to invest too heavily in hives at the start. Any swarm after the first is likely to be rather weak, and any after the second still weaker.

You can very easily, and almost certainly, prevent any afterswarm in this way: When the prime swarm issues, set it in place of the old colony, putting the old colony close besides the swarm. A week later move the old hive 10 feet or more away to a new place. The bees will do the rest. That will give the swarm all the field-bees to gather a good lot of surplus, and the mother colony will be weakened so it will give up swarming.

If you work for extracted honey, you may get along with one super for each colony that stores surplus, although more would be better. If you work for comb honey you must have at least 2 supers for each storing colony, although more would be better.

The likelihood is that the casting out of the young bees was on account of the work of the wax-moth It may or it may not be advisable to change the queen. If a colony is strong it will be likely to protect itself against the moth, although even quite a weak colony will do so if Italians.

Unless the comb is so that you can cut it away partly and fasten it back properly in place better cut out the crooked part entirely, and put fresh foundation in the frame at a time when bees are gathering and building, putting the frame centrally in the hive.

Conducted by J. L. BYER, Mount Joy, Ont.

An Old-Fashioned Winter.

In notes for the January American Bee Journal we commented upon the very favorable weather for bees up to that date. Since the last week in January, however, we have been having what some call an "old-fashioned winter"—very stormy and very cold. Two

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mornings the thermometer registered 25 degrees below zero, which is exceptional for our locality.

With the exception of a few colonies in the home-yard, bees seem to be standing the weather all right. These few colonies were heavy in natural stores last fall, and were fed no sugar syrup. For some cause, possibly a little honey-dew, and excess of pollen, these colonies are showing signs of dysentery quite badly.

It begins to look as if in poor seasons, when stores gathered are none too good and so much pollen is brought in, that it will be absolutely necessary to feed sugar syrup to winter the bees successfully. While there are only about half a dozen colonies affected, yet the difference between them and sugar-fed colonies is very apparent. The latter are very quiet, and to all appearance as healthy as at the beginning of the long winter.

The Divisible Brood-Chamber Hive.

Regarding the divisible brood-chamber style of hive, Mr. Smith, of Palermo, Ont., says, on page 12, that as far as he knows "there is only one man in Canada who uses the divisible brood-chamber." For Mr. Smith's benefit, I would say that at last *two* of our "big" bee-keepers—Messrs. Hoshal and Miller—use the divisible brood-chamber exclusively. Both of these gentlemen use the Heddon hive, and as they are both enthusiasts regarding the merits of said style of hive, naturally they have *almost persuaded* quite a number of bee-keepers to fall in line with their views.

Quite a number of beginners are trying these hives, and while I have had no experience with the divisible brood-chamber, yet judging by the "signs of the times," I feel to agree with Mr. Scholl, that "they are bound to become more popular in the future than they have in the past."

Mr. Scholl gives good counsel when he advises bee-keepers, no matter how well-informed, against making a radical change from the deep to the shallow hive; and, as he says, the better way is first to try a *few* and see how they are liked. As a rule, stampeding is apt to end in *disgust*, and possibly in *disaster*. Wholesale changing of styles of hives in use without any experimenting, is no exception to the rule.

When to Supersede Queens.

C. P. Dadant's contribution on page 46, on the much-debated subject, at what age to supersede queens, forms interesting reading. No doubt J. E. Hand and a few others will think Mr. Dadant's summing up, a trifle too severe when he says that "the idea of replacing queens every year is preposterous." My limited experience would go to uphold the truth of Mr. Dadant's deductions, as I use a very large brood-nest, hence if there is anything in the theory of *working* queens to death, a large number of my queens should fail in the second year. However, such is not the case, as I find nearly all of my queens are as good the second year as in the first.

To be sure, some of the queens fail in their *first* year to come up to what they should be, and in that case I would not expect them to be any good the second year. But generally speaking, a queen that gives good results the first year, other conditions being equal, will give equally good service the next season.

In looking over the opinions of different authorities quoted from by Mr. Dadant, I was surprised to find the age *limit* of queens given at 4 to 5 years. Last spring we had a Carniolan queen that died in her 7th year. There is no question about the reliability of this statement as sufficient data can be furnished to prove its accuracy. The queen was clipped, in fact all her wings were shorn close to her back—good evidence, by the way, that clipping does not cause superseding. For 5 years her colony was one of the best in the apiary, the 6th season they were in fair condition, and in the early part of the 7th year the queen was superseded. During the last 2 years the queen looked more like a large ant than a bee, and she was kept only as a curiosity. While as stated, the colony headed by this queen was always an extra one, strange to say the daughter reared in supersedure is no good. Which goes to show that "like does not always produce like."

Honey-Vinegar.

The same writer says in January Review that honey-vinegar will keep only a short space of time, and that this is the reason that store-keepers will not sell it. With us honey-vinegar has always kept as long as it got a chance to *keep*, and storekeepers will handle it; in fact, I knew of one merchant who sold hardly anything else in the vinegar line. We hesitate to overburden "locality," so, I will not even hazard a guess as to why honey-vinegar behaves so differently in California and Ontario.

Bee-Keepers a Clean People.

Miss Trevarrow, in the January Canadian Bee Journal, says:

"The Ontario bee-keepers take the palm for giving the least trouble and disturbing the uniform neatness of the rooms, less than any body of people that convenes at the York County Council Chambers. If you want to be sure of this, ask the caretaker; he knows.'"

Miss Trevarrow is right, at least the caretaker, prefacing his remarks with some very expressive qualifying adjectives told me without any *asking* that "you bee-keepers are the *cleanest* lot of people I have ever had in this hall to look after." At least three different caretakers of other public halls have made similar remarks to the writer, at former conventions of the Ontario Association.

No, it is not my purpose to resolve ourselves into a "mutual admiration society," yet such opinions are something to be proud of and should serve as an incentive to individual efforts towards making future meetings just a *little better* than those of the past.

Editor Hurley, of the Canadian Bee Journal, speaking in egotistic terms of the progress made by the A. I. Root Co.—particularly of Gleanings—says regarding the senior editor's department of "Our Homes" in that journal:

"It is a tower of strength to Gleanings, notwithstanding the fact that much therein written all may not agree with. We are at one with him, however, on the temperance question."

Our personal acquaintance with Mr. Hurley has been only for a short time, and his views on the temperance question were not known to the writer, but say, as an editor of a bee-paper, we might have known that he was sure to be a temperance advocate!

Right along this line of thought, Dr. Miller says in Gleanings: "I wonder, now, whether a greater proportion of prohibitionists may not be found among bee-keepers than among any other class, not even excepting ministers." Whether the doctor's surmise is correct or not, it has always been a source of pleasure to number among my bee-keeping friends, so many, some not prohibtionists in the strictest sense of the word, yet the majority of whom are strict temperance men.

While the foregoing may not be strictly apicultural literature, I feel sure readers of Canadian Beedom will overlook my temerity on this occasion, particularly as we do not often transgress in this respect.

Poison Mixture for Rats and Mice.

Some time ago, Mr. Crane, in one of the bee-papers, recommended a mixture of equal parts of arsenic, flour and sugar for poisoning mice; I tried it, and at first thought it a failure as the mice did not seem to disappear very fast. However, I now believe it be a good thing, as there is not the sign of a rat or mouse in my three yards and buildings.

The mixture seems to be slow in its action, or, in other words, the vermin are not particularly fond of it, but ultimately they all nibble enough to "fix" them.

While I have never had much trouble with mice, the lack has more than been made up by destructive red squirrels. An account was given in these columns some time ago as to how these little rodents peeled all the paper from the inside of a honey-house and wrought other destruction as well. This year again, a lot of trouble was done at the same apiary before all the squirrels, about 20 in all, were destroyed. A large number of walnut trees near the yard is the drawing card, and after the nuts are all gone, the honey-house and hives offer convenient harboring places. For sheer destructiveness I know of nothing to equal these little rascals, and if a pile of supers was clear on all sides, Mr. Squirrel would disdain to walk around, and proceed to chisel a hole right through the center. I have not so far been able to poison them, so I have had to resort to the gun and traps.

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Conducted by LOUIS H. SCHOLL, New Braunfels, Tex.

A Warm Winter in Texas—Other Subjects.

Bees were very busy gathering pollen from mistletoe, cedar, and a very small blue flower that comes up and blooms in January and February. Water elms, wild currant, and "elbow"-bush are just coming into bloom. The last two furnish a good supply of honey as well as pollen when the weather is favorable. Unfortunately, though, for both the bees and their keeper, the weather is seldom favorable for best results during their bloom. This is all in January.

CAUSE OF RAPID CONSUMPTION OF STORES.

I don't think it is the frequent flights the bees have here these very warm winters we often have in this State that cause them to use up their stores faster than they do during cold winters, as much as it is the amount of brood reared. I opened a hive on Jan. 15, with a vigorous young queen, that had brood in 3 frames. They had all the way from the eggs to hatching brood, and their stores were disappearing in a hurry, too.

THAT "MARIGOLD" HONEY.

I am satisfied now, Editor Scholl, that the bee-keeper mentioned by me as having to give up bee-keeping in his locality on account of his bees gathering honey from wild "marigold" (pages 11 and 12) was not what is known to bee-keepers as the wild "marigold" at all, but his bees gathered the strong, bad-flavored honey he had in mind from a yellow flower that grows all up and down the rivers and creeks of this locality. I don't know any name for the flower, but it certainly does furnish a very disagreeable flavored honey. It blooms in March and April, and some few years yields honey very plentifully. I moved most of my bees away from this place, mostly on account of this bloom, and the so-called "honey-dew." If I am unfortunate enough to get some of this honey the present year (I consider it a real misfortune to befall a bee-keeper) I am going to mail you a sample. I'll not expect to have to fill many carload orders, though, for you.

TIME FOR SPRING EXAMINATION.

You are right, Mr. Scholl, in saying, "A round to all the apiaries should be made in early spring. The colonies should be examined for stores, queenlessness, etc."—page 86, in Gleanings for January 15. Would you mind telling us about the proper date you think best to make these examinations? My bees are all busy gathering pollen now, as stated elsewhere, and all that are "queen-right" will soon have brood in several frames. Yet I should hate to open the hives at this date, breaking the glue loose where the bees have all sealed up warm and snug, unless I knew it was absolutely necessary, for you know we often have some of our coldest weather in February in Texas.

"HUNTING BEES IN TEXAS (?)"

Wasn't that a misprint at the heading of that article written by Elias Fox, of Wisconsin, headed, "Hunting Bees in Texas," page 20? Anyway it is very interesting to me, as bee-hunting is a hobby of mine, and his way of hunting and saving the bees is so nearly like mine that it made it the more interesting to me. Like Mr. Fox, too, I don't hunt bees for the dollars and cents there are in it, for, as a rule, bee-hunting is not profitable. Yet I have spent my happiest days in the woods, all alone, bee-hunting, and have found and cut many hundred bee-trees. This may sound "fishy," but I seriously doubt there being a man living to-day who has found and cut more bee-trees than I have.

Rescue, Tex. L. B. SMITH.

There you are again, Mr. Smith, a-teasing me with some honey-plants for which you know no name. Of course I am not blaming you, because not everybody can be a botanist, although that is a valuable "addition" to mix with bee-keeping.

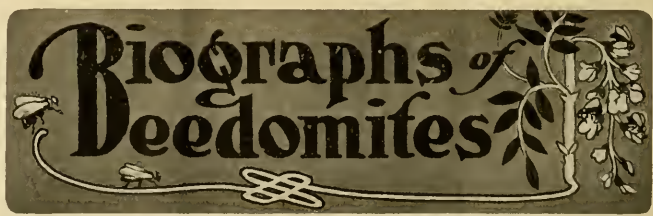
There is a way of finding names for these honey-yielders, however; either your humble servant can tell you them, or he can get somebody else to do it. I am very much interested in all the honey-yielders of Texas.

I should be glad to receive specimens of all the honey and pollen yielding plants of our State, for my collection. My herbarium now comprises a great number of such, but I am well aware that there are hundreds more of Texas honey-yielding plants that I have not yet had.

In many cases it will be possible for me to give the sender of specimens the proper names of such plants, and also their general distribution. If any of our Texas readers see this, and have the time to do so, I would be glad to have them bear this request in mind. When bees are on the flowers—especially such with which you are not acquainted—gather two or more fair-sized specimens, being sure to get flowers, and enough of the plant and leaves, and seeds, if possible, so they can be identified. Before mailing them press them between several thicknesses of newspapers for several days, being sure to change them with dry ones every evening, or the specimens will mold. As soon as they are several days old, they can be laid in single layers of newspapers, the whole laid between two pieces of cardboard, about 8 by 12 inches, then wrapped for mailing. A bulletin on "Texas Honey-Yielding Plants," will be gotten out in the near future, and I will see that you get a copy.

That "round" to the apiaries in early spring should be made as soon as warm weather allows it in January or February. In March, when we have a cold winter. With me it's mostly in January or February, when the bees are flying; then it is an easy matter to examine them. All the colonies that are flying in full force, and bringing in pollen, honey and water, are all right.

To find out about their stores, simply "heft" a few hives here and there. All hives that have no bees or very few flying, need only be opened, and it's necessary to do this as they need our attention, so it matters not about breaking the glued joints. I can tell in a little while the condition of my bees, by just wandering through the apiary, looking at the entrances of the hives, and "hefting" some of them. Those that are not "queen-right" are simply set on top of another colony until later.



EDWIN FRANCE.

On February 7, 1908, in Platteville, Wis., at the age of 84 years, the subject of this sketch passed away. He was born Feb. 4, 1824. At the death of his father the support of a large family fell upon him, and he faithfully cared for them until the age of 32, when he settled on a 200-acre homestead in Iowa. July 23, 1856, he married Harriet Wilson. For 6 years he tilled the soil in Iowa, and during the winter trapped for furs. While in Iowa his only child, N. E. France, was born.

In 1862, he moved by ox-team to Platteville, Wis., being 2 weeks on the way. Here he sold patented bee-hives, sewing machines, and still followed trap-

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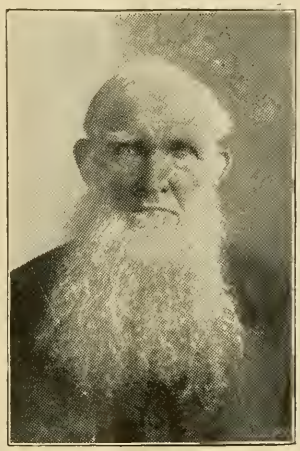
ping for furs in the winter. Thirty-eight years ago he bought the place where he has lived ever since, clearing off the heavy timber and building the house with lumber hauled by team from Galena, Ill. He and his son engaged in market gardening, small fruit-growing, and bee-keeping. He purchased the first honey-extractor shipped into Wisconsin, then increased the size of his apiary so that from 395 colonies of bees in 1886, he took 42,489 pounds of honey, besides increasing them to 507 colonies. Several poor seasons followed, but each year he obtained some honey. He and his son did all the work except for a few days during the honey season when some help was hired. He never allowed his hired help to use profanity or indulge in intemperance.

While living in New York State, for several years, Mr. France was leader of the Methodist Church choir, often using his violin, but in his later years, owing to defective hearing, he did not attend public gatherings.

July 23, 1907, Mr. and Mrs. France celebrated their golden wedding. October 9, 1907, he fell from a wagon, seriously injuring himself, from which his death resulted later.

He leaves a widow and son, N. E. France, so well known to all bee-keepers as the General Manager of the National Bee-Keepers' Association.

The death of Mr. France removes one of the greatest naturalists in Wisconsin. He was one of the best-informed men on the habits of animals, especially those that inhabited this country in the early days. He did not class himself as a scholar, but his knowledge of animal and bird life was gained through personal experience, and he derived his greatest pleasure from their study. He would often tell of his early experience when on trapping expeditions, which were often full of danger not only from wild animals which he hunted, but from the Indians that often camped on his trail. It was only during the past few years that he has given up his annual outing on the Mississippi River, where



EDWIN FRANCE.

he enjoyed the outdoor life of earlier days.

Mr. France never wrote very much for the apiarian press, but what he did write always bore the marks of ripe experience.

At Mr. France's funeral all the pall-bearers were former helpers in his apiary.

Preparing for the Honey Harvest

BY G. M. DOOLITTLE.

A correspondent writes, asking when he should prepare for the honey harvest, saying if he goes about this during the winter, all of his bees, or a part of them, may die, and, if so, he will not need all or any of the preparation he has made. I often get such letters, and when I received this one, some way I felt like "speaking my mind" on this subject right out in print where more than just *one* person could hear what I was saying.

This putting off preparing for the honey harvest, is one of the hidden rocks on which many a would-be bee-keeper's "vessel" has been run, and gone to ruin. The question is not, *Are the bees going to live?* but, *Am I going to make a bee-keeper?* If I am going to make a bee-keeper, I *must* have bees; and if those I now have die, *I* will get more. Therefore, I am going to leave no stone unturned to make a success in this undertaking; and if a success is to be made I am always to be prepared for the harvest when it comes. And always to be prepared means to know what I want, and as fast as possible have everything in readiness as long before the harvest comes as it is possible for me to do. In other words, I will commence preparing for the next harvest as soon as the last one is over.

The first preparation after the honey harvest is over, is to *know* that the bees are all ready for wintering in the best possible shape. And that this may be so you will commence this knowledge in *September,* not put it off till November or December, as so many are prone to do, and then write Dr. Miller, Alexander, Root or Doolittle how the bees can be fed in cold weather, because you have just found out that some of your colonies are weak in numbers, and many of them short in stores; giving as an excuse for such a state of affairs, that you went off hunting, or fishing, or on some pleasure excursion when you ought to have been attending to the bees.

Having the bees all in "apple pie" shape for wintering, the next thing is to expect that nine-tenths of the number of colonies you have in September will come out strong enough to do successful work in the harvest of the next year, and go about your preparations accordingly. If you have not hives enough, in good shape, repair the old ones and make new till you do have. Then prepare surplus frames filled with foundation, if you do not have combs enough, to meet the wants of those colonies and hives, allowing room enough, if you are working for extracted honey, for the storing of 200 pounds of surplus to each colony; and 150 for each colony worked for section honey, making and preparing your supers and sections during the winter months.

Don't be "side-tracked" by the one who tells you to wait about putting the foundation into the frames and sections till just before the harvest, because the bees take more kindly to fresh-made foundation than they do to that which has been made longer and gotten old and hard, for such talk is a myth; and, besides that, if you are to be a success in apiculture, you will have all your time fully occupied just before the harvest with things more profitable than putting foundation into frames and sections. Thus you will keep on till everything you need for work in the apiary is all in perfect readiness by the time spring comes. If you get this work done a little before this, then go over the books and papers you have on bees, and finish "posting up" on these, wherein you have failed to do so, during the long winter evenings. Then if you have any new plans or experiments you expect to conduct the coming season (and if you are a live bee-keeper, you will have more of these than you can properly look after each year), lay out these plans by pencil sketches or wooden models, so that you will have all "at your finger-tips" when the time comes for proving them of value or worthless.

Don't let any one dissuade you from trying any plan you may wish to conduct by telling you that "we old heads" have things all worked out regarding hives, etc., so it will be better for *you* to take "the beaten path," for, even though you may not bring out something which will "revolutionize" the world, your planning and working out those plans will "rivet" you to the pursuit you have chosen, enlarge your views, and teach you very much more of apiculture than could possibly come by keeping each step of "your feet"

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in the footprints of some one else who has passed on before.

Having everything in readiness, as soon as spring opens, begin learning anything about your locality with which you are not perfectly familiar. In nearly all localities where bees can be kept, there are certain plants and trees which give a yield of surplus pollen or honey, or both, and this yield comes at certain times during the year, while aside from this there is little more honey obtained by the bees than is needed to supply their daily wants. Some localities give a slow surplus during the larger part of the summer, but these are exceptional. The majority of localities give a surplus at one, two or three stated periods.

In any locality where there is a surplus only at one stated period, it will be apparent to all that if such a surplus yield passes by without any surplus, none can be obtained during the season. Where there are two periods of surplus, there is still a chance for some surplus from the second, should we fail in the first; and with three surplus periods, our chances are still better than with only two. But if the apiarist knows nothing when the time of surplus comes, he will be working "blindfold" in these matters, only so far as the bees will naturally prepare for them themselves. But in order to be a successful apiarist, a person must not only have a full knowledge of his locality as to its honey-producing flora, but must also so help his bees that the maximum number of individuals will be on the stage of action at the time of the greatest yield of nectar from his fields. Failing to do this, very much of the profit which might be secured is lost, and our would-be apiarist becomes discouraged, and often gives up; while, had he studied and *known*, so as to have brought his greatest number of laborers on the stage of action just when his location gave its greatest yield of nectar, his profit and success would have made him an enthusiast, almost without equal.

For years I started out with the bees when the first pollen came in, following them till I knew where they obtained it, and so on, till that which came in last in the fall; till I knew every source from which they obtained that part which is needed to fill the hives with brood. Then with the first honey I started out in the same way, and so on down to the last from the fall flowers. In this way I found that the only flowers on which I could rely for a surplus of honey were—first, white clover; second, basswood; third buckwheat. If from any reason the white clover was winter-killed, I did not put forth an extra effort for an early strength of colonies, but concentrated all effort so that they might be at their best for the basswood, and if a late frost killed the basswood buds when they were very small, the latter part of May, then I looked forward so as to be prepared for the buckwheat.

But, bear in mind, that it is *your* locality that *you* are to *know*, in order that *you* may make a success; and by having everything in readiness along the supply line during the winter months, when spring opens you are not hindered from *knowing* these matters, as would be the case where you waited till spring (to know how the bees came out) before you did any of the preparation for the season's crop.

Borodino, N. Y.

Removing Sections from Wide Frames—Filling Sections With Comb Foundation

BY J. E. HAND.

I notice on page 754, an inquiry about how to get sections of honey out of frames having a top-bar. I believe the question was not answered.

The advantages of the frame over the section-holder is in a better protection of the sections. It also admits of reversing to get the combs attached to the wood at the bottom of the sections, and takes the place of a bottom strip of foundation. It also admits of extracting partly-filled sections 4 at a time.

To remove honey when finished, run a thin-bladed knife along the crack between the sections and frame, and push the frame down over a form, leaving the 4 sections of honey upon the form.

To fill the frames with sections, and the sections with foundation, at one operation, split the sections with a saw ¾ their length exactly in the center before folding. Place the frame over a form ⅞-inch thick. Put the folded sections in the frame and upon the form with the unsplit side at the bottom of the frame. This leaves the sections half way out of frame and exposes the opening. Pass a thin, narrow strip of wood 20 inches long down through the center of the 4 sections until it strikes the bottom, which opens up the 4 sections to receive a continuous sheet of comb foundation 4⅛x17⅛ inches, and which is dropped into the opening, and rests upon the narrow strip of wood which is removed endwise; and by giving the frame a tap on the bench, the foundation drops into place, and the sections are pushed into position in the frame. You may throw the frames upon the floor, or handle them as roughly as you please, but the foundation is there to stay.

One can have but little idea of the rapidity of the operation, or the results gained, by having sections filled solid full of foundation without a crack anywhere, until he gives this system a trial.

Birmingham, Ohio.

Honey and the Pure Food Law

BY DR. G. BOHRER.

For years the ready sale of honey, at remunerative prices, has been a question, among actual producers of actual honey, of more than ordinary importance. The blenders of glucose and honey have placed such an immense amount of their adulterated goods upon the market in attractive packages, and under the label of pure honey, of which the public became aware, so that many people who would gladly have been purchasers and consumers of pure honey would not buy anything called honey, through fear of purchasing adulterated goods. Especially was this the case regarding extracted honey. Yet comb honey was held in the background to an extent, the belief being entertained by a considerable number of people that honey-comb was manufactured by machinery, filled with counterfeit honey, and sealed artificially; all of which, it was said, was such a perfect imitation of the work of honey-bees that the difference couldn't be detected. In fact, this adulteration was carried on to such an extent that almost all, if not all, manufacturers of all the different syrups and candies became extensive users of glucose in their factories, the result being that scarcely a syrup free from this vile stuff could be found in the market. I have called glucose "vile," for the reason that both my experience and observation have led to me to believe that the less of it there is used as a human food, the better off mankind will be in health.

To offset all this, bee-keepers sought relief through advertising pure extracted honey by reliable parties, the labels on the packages bearing the name of the producer. And the production of artificial honey-comb was also denied, the reply to which usually was, "You're another." Pure honey could be sold by producers to those who knew them to be reliable, quite readily. But beyond the limit of their acquaintance slow sale was the rule.

An organization was effected, and quite a sum of money was raised by the members, with the object in view of increasing the sale of honey. But it did not prove satisfactory, and the funds in the treasury, if my information is correct, were turned over to the National Bee-Keepers' Association, and is a part of the funds of their treasury.

About this time our National Congress enacted a pure food law, and most of our States, I think, have done likewise, and, as far as the writer knows, honey has been protected by the pure food laws, either State or National, or by both. And while it is claimed by some that goods not actual honey are sold as honey, under adroitly drawn and evasive labels, I feel fully convinced that it is a mistake. If not, then it is being done by a grossly uninformed person, and parties interested have not turned a sample package of it over to an analytical chemist to be tested. Let this be done, and if the package is found to be spurious, the authorities will, if it is brought to their notice, handle the offenders without gloves. And if any one, whether a bee-keeper, a honey-dealer, or any one, fail to report anything of the kind and at the same time fail to notify the proper authorities of such misdemeanor, he is not doing his duty to himself nor his fellow-men. Let the strict enforcement of the pure food law be the watchword of all interested in the production, sale and consumption of pure honey, and, my word for it, honey in either the comb or extracted form will not go begging for buyers at reasonable prices.

Lyons, Kans.

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Exhibiting and Selling Granulated Honey

BY C. P. DADANT.

I read on page 6, an editorial reproducing a letter from Dr. F. D. Clum, concerning the desirability of exhibiting granulated honey at fairs. I believe this matter needs to be insisted upon among bee-keepers.

The sale of granulated honey of the very best quality has been customary in Europe for centuries. Very little comb honey has been sold there at any time, but they have long ago found out that the best honey when taken from the combs granulates almost without exception at the opening of cool weather. It is held by many people that the granulated honey is more easily digested than the liquid, and that the exposure to the air, which is mostly responsible for the granulation, also removes most of the tendency of fresh honey to sicken some stomachs. Be this as it may, there is no doubt that the granulation or candying in regular granules is a very good proof, not only of the honey being ripe, but also of its being pure. The elder Dadant was most emphatic upon this matter, and had prepared a label, as early as the seventies, to put upon our packages, and which reads as follows:

"The granulation of honey is the best proof of purity. We guarantee that our honey will granulate if kept at a temperature not to exceed 70 degrees. We will pay one hundred dollars to any one proving, after analysis, that our honey is not strictly pure." After a few years, we found that the words "candy" and "candying" would appeal to more people, so we changed from "granulated" to "candied," which means the same to every one, but was more intelligible to the mass of people. This label was kept on all our honey and is still in use by us. The result is that we have created a demand for extracted granulated honey. But we are almost alone in this. The bee-keepers who insist on selling and guaranteeing granulated honey are very much scattered, and their efforts are lost in the mass of dealers in liquid honey.

Why is it that granulated honey has ready sale, and is accepted in Europe, while it is generally unknown here among the people? I believe the answer is in the original conditions of bee-culture, in America. The woods of our wild country were very quickly filled with bee-trees, and a goodly portion of the honey harvested by the early settlers was taken from such sources. All those who have been "bee-hunters" know how badly smashed the combs were by the fall of the tree, and how much the honey was mixed with rotten wood, pollen, brood, etc. So the honey was strained and heated to purify it. Hence, the liquid "strained honey," against whose reputation our fine extracted honey had to compete.

No one knew anything about "granulation," outside of the bee-keepers. But it is really a pity to be compelled to acknowledge that our bee-keepers are left almost alone in knowing that good honey will invariably granulate, if it is ripe enough. I say, "invariably," although there are occasional instances when very good honey fails to granulate, and L. C. Root (Quinby's son-in-law) once in my hearing, at a bee-keepers' convention, advanced the assertion that very ripe honey would not granulate. He had a very fine sample of liquid basswood honey which remained clear, but for one such sample, our friends can show tens of thousands which granulate thoroughly. Why, then, shall we continue to keep the people in ignorance of the true nature of honey, by exhibiting and selling only liquid honey, which we are at great pains to keep in that condition?

Some of our best bee-keepers plainly say that they cannot sell granulated extracted honey. To this statement I object. It is true that liquid honey is more easily sold. But when you sell extracted liquid honey, and it granulates on the hands of your customer, if he does not know anything about granulation he will at once suspect you of dishonesty. If he does not have occasion to complain to you, he will nevertheless complain, and will not hesitate to tell everyone that you cheated him, and sold him some stuff that you called honey, but which all "went to sugar." You then have a much more difficult case to deal with than if you had sold him the granulated honey in the first place, and had told him how to liquefy it.

I am quite free to agree that granulated honey does not look as pretty as liquid honey, and that it makes a poor exhibit in a glass bottle. Yet, after the knowledge that all consumers have of the beauty of glucose or so-called "corn-syrup," why should we desire to retain that appearance in our honey? When a person buys honey, he should not be after the looks, but after the taste. If looks only are to be relied on, in our food, then oysters are to be discarded, for I don't know of any dish that looks worse than a saucer full of oysters!

Our editor speaks of Illinois as encouraging the display of extracted honey. Yes, and it was after years of repeated battling, with the help of such writers as Mrs. Harrison and others, that our bee-keepers finally succeeded in having a special premium for granulated honey at the Illinois State Fair.

Bee-keepers are in the market with their honey, to stay. Their honey will continue to granulate from year to year, and this will continue to be a very good test of purity. Then why not all work steadily to educate the people, so they may recognize the value of our goods, when presented to them in a natural condition? As long as we will try to avoid the sale of granulated honey, there will be a prejudice against it, and every now and then a bee-keeper will be taken to task for an imaginary fault and defect, which, far from being a fault, is a quality. For there is no end to the slurs cast upon an article which the consumer does not understand. Absurd things are said, foolish things are done, by people who only need to be informed. "Your honey is not good," said a new customer one day; "it all turned to sugar. I put water in it to liquefy it, but it won't melt!"

Bee-keepers, the education of the people, as to the purity of honey depends upon your efforts. Then do not allow the delusion to continue by continuing to liquefy the honey before offering it for sale. Try at least to inform your customers as to the value of granulated honey, so that if they buy the liquid product they will not be astonished to see it "turn to sugar."

I want to give a bit of information to beginners who may have produced honey which granulated in an irregular way. I have just lately received an enquiry from a bee-keeper who says that some of his honey has granulated in a way that makes it look like cream that had flour in it. Then, sometimes, honey will granulate in lumps, with a certain amount of thinner honey surrounding these lumps. In these instances the honey is not thoroughly ripened. The best thing to do is to melt the honey slowly without heating it sufficiently to damage it, and let it be exposed to cold again when liquefied. It will be very much slower to granulate, but will then granulate properly without lumps. At least this has been my experience with all such instances. But it is very much the best to have your honey thoroughly ripened when harvested, for it will then make a very even and fine grain.

We can not too strenuously condemn the practice of harvesting and offering for sale unripe honey.

Hamilton, Ill.

Bee-Territory and Legislation

BY C. C. MILLER.

I have read with very great interest what Prof. Cook says on page 16, under the heading "Over-Stocking." Prof. Cook, my old friend (that "old" has no reference to the years of your life, but to the years of our friendship), I'd give a good bit to sit down with you and have an old-fashioned talk all about it.

You say, "If we knew . . . then we would be warranted in demanding some legislation that would * * * * protect the bee-keeper." Thanks for conceding the possibility of legislation, even with the attachment of the "if." Oh, you're growing. Before making that concession, however, you hint that most localities are not stocked up to their full capacity.

Putting both things into one sentence, if I understand you correctly, your position is this: "If we knew that 100 colonies would properly occupy a certain location, and if you had 100 colonies on the ground, then you might with reason ask legal protection."

Now in all fairness, Professor, will you tell me what either of those things has to do with the case in hand? Did you ever hear of such questions being asked as to occupying territory for any other purpose, whether for corn, wheat, cattle, buildings, or anything else? Before a man obtained poessession of a certain piece of land on which to raise cattle, was it first decided that just so many head of cattle could be supported

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on so many acres of ground? and did he have to show so many cattle before he could have so much land? Was it? and did he?

Now I want to ask you a question, and I hope you'll answer it in the first number you can: Why am I not entitled to legal protection in my territory now, just as much as I would be under the conditions you mention?

To save space I may as well answer a point that you—no, I don't believe you would make it, but some one else may make it. It is that I have no right to any territory, for I haven't paid for it. No, I haven't, but I'm ready to pay the government for it, just as the man was ready to pay for territory for his cattle.

More and more the feeling seems to be growing that it would be a good thing for the general good that men should make a specialty of bee-keeping. I think you will agree with me that to encourage a man to do that, he should feel there is some sort of stability about it.

Now suppose a man settles down in a given locality, investing whatever money may be necessary, starting with 50 colonies of bees. He says to you, "A man was here today who talks of coming and planting another apiary close beside mine. It will be a heavy blow to me, for I counted on making a living with my bees. If he comes it will knock me out."

You say to him, "But your 50 colonies can not begin to occupy that field." "Of course not," he says, "but I expect to build up as fast as I can until I have all the locality will support." You reply, "But you're not certain just how many it will support, and until you do he has a perfect right to plant as many as he likes, even if it be at a loss to both of you." No, I can hardly imagine your making such an answer. Take the floor, Professor.

Marengo, Ill.

Extension Work in Agriculture

BY PROF. A. J. COOK.

This is what our Government, State and National, is doing for us with an energy that may well attract and receive thorough appreciation and deserving praise at home, as it is receiving from all the civilized nations of the world. Our Department of Agriculture is surprisingly alive, and under our efficient Secretary Wilson is doing a mighty work for the farmer, and, in helping the farmer, it helps all of us. The Stations are not far behind in this great field of research. Now the work is so well organized and unified that the eye of the Government Department is over and on all, and the various States are cognizant of what each is doing, and so all are spurred constantly to their best. This is making each State and the nation alive to the supreme importance of securing better—the best—men, and this search and its success is giving us a magnificent corps of workers. As yet there are not enough of this kind to go around, and so we are not getting in all places as good work as we will very soon. Young men will see the great chance to fit themselves for work that is most fascinating, and is, at the same time, big with benefit to the world, and so the best talent will be won to this valuable research work. The bee-keepers are remiss in this matter, as each of us should demand that our Agricultural Colleges and our Experiment Stations should be as well equipped in bee-keeping lines as in other lines of Agricultural development, and soon we would have more men attracted to this field, to the advantage of us all.

A Liberal Education.

To be educated, one does not need to go to college or university. Greeley never was in either, and he was well educated. To-day any of us who will thoroughly study our best station bulletins, will find that he is soon well informed in almost all lines of science and practice, and will soon feel that he is broadly trained and will feel more competent to do his special work in the best fashion. I am sure that the bee-keeper and all others would greatly profit, if they would procure the bulletins from all the stations, and thoroughly study them all. This will not only give the best that is known in our special line of work, but will make us conversant with all that is doing in kindred lines, and we will be surprised at the advantage that we shall gain from this broader range of thought and vision. The man, no matter what his special line of work, who will thoroughly study the bulletins that are being sent out by our several stations, and the Government, will soon be well-informed in the very best departments of knowledge, and with the added reading, which will soon follow as a sure result, will become broadly educated, and become a power in his county and State.

A Valuable Bulletin.

Bulletin No. 75, of the Department of Agriculture, is specially worthy of study by all bee-keepers. It is a full discussion of the methods to be adopted in working for extracted honey. Dr. E. F. Phillips is thorough in his work, and is conservative, and so if he errs he will not be likely to mislead. He also is very wise in a happy mingling of the scientific with the practical, so he will constantly broaden our outlook, while he at the same time gives us the best that is known in methods and practice. This bulletin is a sort of compilation of what is being practiced by our best bee-keepers.

It is a fact that it will pay the most bee-keepers to produce, mainly, extracted honey. Success is easier, the results more certain, and in case the bee-keeper is as far from market as we are on the Pacific Coast, then the matter of marketing and shipment are both on the side of the extracted honey.

Well-Ripened Honey.

This is a matter so exceedingly important, that no one can afford to disregard it in the least. I know, as does every other bee-keeper of wide experience, that honey can be ripened outside the hive and lose none of its excellence and flavor. This can only be true where the warm, equable temperature of the hive is maintained. We know that digestion of the nectar is not completed till long after the same is placed in the cells of the comb. For this reduction to be complete, the conditions of the hive must be secured, else the change is incomplete and the product is not as good. We must remember, then, that two things are requisite in the ripening process—one, the reduction of the water content down to 18 or 20 percent, and also to complete the work of digestion. The latter is as important as the former. The fact that the conditions are sure in the hive, and not at all sure outside, makes it wise, and the only wise course, to extract only after the honey is fully ripened. To be sure, it saves some labor to extract just as soon as the bees commence to cap the honey, but the danger that we may not if we follow this practice secure the very best article of honey, which should always be the aim of our methods and practice, makes me advise all to leave the honey till all is capped.

Reliquefying Granulated Honey.

I think that Dr. Phillips has not emphasized the importance of this matter any too much. I do not think that direct heat is to be avoided, however, if applied in the best way. In case we use the method advised, we are quite likely to get the water too hot and injure the flavor of our product. I believe that our market for extracted honey has been almost as much injured by putting into the sales rooms an article where the flavor has been injured by too much heat, as in any way. Without doubt the very best way to reduce the honey is to subject it to a warm temperature, say of 100 degrees, or a little more or less, and let it liquefy slowly. This takes time, but it will give us a product that is no whit inferior to honey that has never crystallized at all. And if it pays always to produce the best, can we not afford to take the trouble?

Again, if draining off the levulose and melting the dextrose, gives us a superior article (and I have never eaten any that wos so fine), I see no objection to doing it. Of course this is not honey, nor is cream milk; yet we shall continue taking cream at our house. Of course, this is of no practical importance as it will never be done to any extent, but to secure a little superior honey for one's own use, it is entirely proper, and in no way wrong, at least so it seems to me.

I hope all our readers will get this valuable bulletin and thoroughly study it.

Claremont, Calif.

Apiarian Rights of Priority Questioned

BY N. P. ANDERSON.

Some time ago, Editor E. R. Root, in Gleanings, wrote a considerable article in behalf of the rights of priority, strongly defending same, and even going so far as to say that it would be a desirable thing to have the government

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take charge of the nectar, as something separate from the land, and lease or license to one man a certain amount of territory adjoining his apiary, which would prevent any one from locating an apiary within several miles of him, and guarantee him the exclusive pasturage of his locality. All the great lights of beedom that expressed themselves on the question at all, such as Dr. Miller, Mr. Hasty, etc., shouted with one accord, "Amen! Speed the day!" Well, I have been waiting ever since for some one to say a few words on the other side of the question, but in vain, so I am going to tackle it myself, even though I may bring a swarm of hybrids (Americans) around my ears, in a way that will "send me to cover" in double-quick time.

First, why should a bee-keeper enjoy special privileges which are not extended to other people in equal and legitimate business enterprises? Why should not the merchant who first settles in a village, investing thousands of dollars where the bee-keeper invests hundreds, be likewise protected against competition? Certainly every argument that can be offered in favor of protecting the bee-keeper applies equally well to the merchant; each, if true to his business, will have his all invested; each will be honored and respected, the merchants generally being leaders in all things of importance in their localities, more so than the bee-keepers, and, as we are all human, it is pleasing to any ambitious person to feel that he is considered "somebody" in his community; and as each is likely to remain indefinitely before competition appears, they are likely to form the same ties socially through friendship, relationship, and otherwise. The parallel is complete, and I will only show why the bee-keeper should not have a monopoly on his locality.

First, I believe that but few people would put forth their best efforts if it were not for competition. This tends to make a better bee-keeper with competition than without.

Second, the nectar is gathered over a large area, and as but few bee-keepers are extensive land-owners, their bees roaming at their sweet will wherever there is nectar to be found, nearly all of it is gathered on other people's land. It certainly ought to be regarded as a free product—free to any man who wishes to keep bees to gather it.

Third, competition is the one thing that upholds the law of "the survival of the fittest," and to this we can attribute nearly all progress made in apiculture. If priority should hold the pasturage of a locality, than the farmer with his 25 or 50 boxes of bees (some of them rotten with foul brood, etc.) getting little or no honey, would hold and prevent any up-to-date and progressive bee-keeper from coming in and establishing a profitable business in a perhaps really good locality. With competition when the up-to-date bee-man moves in, Mr. Farmer will soon find out that he *is* behind in his methods, that he must get rid of his box-hives and his sulphur pit, and take a bee-paper or two, or get out of the business.

Fourth, the right of priority as we have it at present, is all the protection any up-to-date bee-keeper needs, and of course no others ought to be protected. If he is at all up to the times, he will know his honey-flows and be prepared for them. He will have years of experience. He will know of weather conditions as pertaining to apiculture, and will keep at *all* times *all* the bees his locality will support, one year with another. And above all things, he will tell about his failures as well as his successes. This last item alone will, I think, eliminate 50 per cent of your prospective competition, and if you live up to Rule 4, the other 50 percent will not continue in the business long enough to become dangerous. If you do find a fellow who is going to stick to it, he will know that it is to his advantage to seek another locality rather than "buck" the old-timer.

If any of your neighbors should contract the bee-fever to such an extent that they are just bound to try their hand at it, don't be afraid to sell him some bees if you can spare them, at the same time also telling him that it takes years of study to be a successful bee-keeper, and that you are keeping all the bees the pasturage will allow profitably. If he still persists, and won't believe you, let him have the bees, and by the time he uses a small stone quarry to keep his supers from blowing away, and if you let him get his "pointers" from the rear end of the bees, and not from you, for a year or two, he will think you told the truth, and he will be cured to stay cured, and will sell you his outfit at your own price.

Now, if Dr. Miller or Mr. Hasty, lose their localities (which I hope may never happen)—well, they needn't come to me for sympathy.

Minneapolis, Minn., Dec. 18.

Siftings from a New York Bee-Keepers' Institute

BY F. GREINER.

It was a happy thought for the two societies of Ontario and Seneca to have a joint meeting at Canandaigua, N. Y., Dec. 10 and 11, 1907. While the attendance from Seneca was not great it brought over the best timber—certainly an advantage for all present.

From the presidents' addresses the following may be of interest and give food for thought to bee-keepers who are not organized and rarely, if ever, attend bee-conventions:

H. L. Case, President of the Ontario County Bee-Keepers' Society.—When bodies of men are organized they become recognized. They are in a position to accomplish something by their united efforts. We have made advances in purchasing supplies and should do more in disposing of our products. We ought to keep up the price. Small, uninformed producers have sold fancy honey in this place at 10 cents per pound, ruining the market for others at the start. If anything could be done, we surely ought to do it.

J. T. Greene, President of the Seneca County Bee-Keepers' Society.—Of all the work men are engaged in, none is so full of enthusiasm as bee-keeping. In other enterprises we find dead men. We find dead doctors, dead ministers, lawyers and other professionals, but a bee-keeper, if he is at all interested in his occupation, he keeps either growing or he will drop out. In order to control and improve the market we must do missionary work—have these other bee-keepers join our society, or buy them out.

FOUL BROOD AND ITS TREATMENT.

The question of foul brood is a grave one. The disease is spreading and coming upon us. Our very existence depends upon our vigilance to keep the disease in check. Let us be on our guard.

Chas. Stewart, foul brood inspector, emphasized what had been said about keeping up the home market. In his locality they had been successful—they had either educated or bought out.

On the foul brood question he took an optimistic view. The disease had cost a great deal to the bee-keepers, but there was a silver lining to it, after all. It had made better bee-keepers and taught them that they must keep in close touch with each other to control and cure this disease. Some slovenish bee-keepers had their bees entirely wiped out, while careful men saved theirs. There were not nearly so many diseased bees in the formerly badly afflicted districts.

In treating an apiary the bees are shaken only once. The hives are not disinfected, but the frames are steamed or burned. Only one out of 10 colonies shaken once needs shaking the second time. A careful bee-keeper can treat his bees with but little loss. He placed great stress again upon the fact that the Italian bee withstood the disease much better than the other common race. The Carniolans he found to be more immune than the common blacks. He also said that the disease could be cured in the fall by shaking

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the bees into a hive of clean, provisional combs.

PRODUCTION OF HONEY.

C. B. Howard produces comb honey principally. As a side-line to the business nothing was equal to producing extracted honey. He thought the long ideal hive was all right for producing extracted honey. With regular 8 or 10 frame hives he was obliged to use queen-excluders between the upper and lower stories.

C. J. Baldridge uses the Root chaff-hive as made originally by A. I. Root. The frames in the upper story stand crosswise of those in the brood-chamber; his queens show no disposition to occupy the upper story, although no excluder is used on his hives. The first extracting is called and labeled No. 2, and a sample is put up the same as in the other case. The sample is also labeled with the corresponding number. Thus he continues throughout the season. By putting up his honey in square tin cans he knows at any time what his honey crop is, how much he has of each grade, and by his samples he sells his crop.

The majority of those present were not able to produce extracted honey without excluders. F. Greiner said that his queens would aim to occupy the top-story whenever there was a chance, leaving the lower stories practically empty of brood and generally of honey also. An excluder is necessary with him. Others coincided with him. H. L. Case produces extracted honey in large hives, giving queens free range; he wintered his bees in two stories, and brings his bees through the winter immensely strong.

Chester Olmstead was enthusiastic on this matter of wintering and keeping his bees in two stories. He said the way they came out in the spring made a man smile; and the amount of honey they stored made him smile again; he produces comb honey over the two sets of brood-combs.

An objection was raised on the grounds that such a large brood-chamber would wear out the queens very fast. To this Mr. Olmstead replied that he requeened every spring, and his queens were equal to the emergency.

Mr. Case said he would like it if he could wear out a queen in 24 hours, and Mr. Stewart remarked that if he could induce a hen to lay all the eggs she would naturally lay in her lifetime, inside one day, he would be glad, and he would get him another hen.

WINTERING BEES.

L. F. Wahl spoke on preparing bees for winter. He argued that we must begin in the summer, and he warned against robbing the colonies of their best stores. He showed that some honeys were lacking in body. By the use of a certain instrument it is an easy matter to test honey or syrup.

Next came an address on wintering in the cellar versus outdoors, with additional specifications of the requisites of a bee-cellar. Some visitors from neighboring counties were particularly interested in the bee-cellar question, and the speaker went into all the details. The bee-cellar must maintain a temperature of 45° F., as nearly as possible, for at this temperature the bees remain in the most quiescent state, and can endure the long confinement best. If during a mid-winter warm spell the cellar becomes too warm, doors and windows are opened nights, and closed up again during the daytime.

If the cellar is damp, unslackened lime may be used, and calcium chloride has lately been recommended for the same purpose. Mice must be looked after—baited traps should be kept set. Mice not only destroy the combs but irritate the bees. Bees should be disturbed as little as possible.

MARKETING HONEY.

Chas. Rose, on marketing honey, said he wanted to produce full-weight sections. He did not want to send out inferior honey. Such he would keep at home and sell to neighbors as cheap honey. There were always lots of people who wanted to buy cheap, cheap, cheap!

Mr. Stewart remarked here that we should never turn a customer away. Always have honey for sale.

Mr. Ballard placed great stress upon grading honey honestly, and to have everything connected with honey neat and clean.

Mr. Greene's experience seemed to show, that it made no difference how the grading was done. He had received no better price for his fancy honey than his neighbor did for the second grade. Some buyers do not seem to be very particular about the matter.

READING BEE-PAPERS.

Mr. Greene made another address after a recess. He said we ought to be more thorough in reading our bee-periodicals. He had met some bee-keepers who pretended to be among the first and best, and yet were very ignorant on what their bee-paper had published on a number of questions of importance. Bee-papers are a necessity; they are valuable—a real bee-keeper reads them with enthusiasm. We grasp a little here and find a little there; thus we keep gaining in knowledge and wisdom. With all our reading we ought to keep pace in *thinking*. We must not read our apicultural literature in the way we read our daily papers. I mark and note down all articles that are of special interest to me, and re-read at leisure. Out of the chaos of many ideas we draw and form our own.

HISTORY OF BEE-KEEPING.

W. F. Marks said that when he first kept bees they produced honey in large, heavy, unsightly boxes, and yet the price was 25 cents per pound. Now we produce it in fancy little boxes with a great deal more labor, and no more is produced now than in 1861, still the price we receive is scarcely more than one-half. Why the difference? Who is to blame? Organization. We ought to be careful whom we take into our bee-keepers' society. This is a good deal like the partnership cow. The one claimed to own the further end of the cow, and he wanted to do the milking, leaving all the responsibilities as to the other end—the feeding of the cow—to his associate partner. The partner agreed to that, but found it very unprofitable business. Let us take a lesson!

Mr. Stewart gave a sort of historical sketch on management of the apiary for comb honey production. He said they used to have a large 12-frame Langstroth hive, taking a super of 44 sections. They had booming colonies then which often filled 3 or 4 big supers. The home-yard was run on the natural-swarming plan, with a modified Heddon plan to prevent second swarms. The out-yard was worked differently, inasmuch as swarming was prevented by making new swarms by the nucleus plan. Later the "shook-swarming method" was adopted.

REQUEENING AND QUEEN-REARING.

F. Greiner gave a sort of historical sketch. He had observed that young queens were an advantage, as fewer colonies were lost during winter, and the bees bred up better in the spring, but it was laborious to requeen every year. He was afraid that rearing queens by transferring larvæ our bees might degenerate; he did not think it was on account of the possible injury of the larvæ, because, if injured, the bees would discover it and remove them; but because the insect is not treated as a royal member from the beginning.

The transferring-of-larvæ method is one of the easy ways to rear queens, and therefore finds favor with many, he thought. The baby or miniature nucleus or mating-hive was used on account of cheapness, but he preferred to use larger frames and more of them, thus having stronger colonies which would take care of themselves, required no fussing and feeding, and were not often robbed out. Four of his mating colonies are united at the close of the queen-rearing season, or about when buckwheat begins to yield honey. They are wintered in the cellar.

During the honey-flow he practices direct introduction of young queens, by allowing them to run from the comb of the mating hive on the regular-sized brood-comb taken from the midst of the colony destined to receive her.

Mr. Greiner wanted to know whether this manner of introducing would work during the buckwheat honey-flow. The answer given was that it was not a safe way. Caging the queen would be safe.

Mr. Olmstead said he enjoyed nothing more than to rear queens by the advanced methods, and he offered as a simplification of transferring young larvæ, his simple instrument—a common "pin," with its point pushed into a little wooden handle.

The next convention (in 1908) will be held in Geneva, N. Y.

Report of the Chicago-Northwestern Bee-Keepers' Convention.

(Continued from page 51.)

The evening session began with the following question:

FALL HONEY FOR WINTER FOOD.

"Is fall honey unfit for winter food?"

Mr. Taylor—If it is bad for bees, it is.

Dr. Miller—What do you mean by fall honey?

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Mr. Dadant—I was the one that asked the question. My reason for asking it was, that Mr. Taylor said this afternoon that for years he had lost bees in winter because they had fall honey, and that it was bad for bees. Fall honey is the honey that is harvested between the first of August and October, at least with us. I wanted to bring out Mr. Taylor and find out more information.

Mr. Taylor—Some kinds of honey are just as good as any for wintering bees. Buckwheat honey is generally good for wintering bees. Honey from swamp flowers is good if gathered in a dry fall when the weather is warm so that the bees can ripen it. Fall honey gathered from the swamps is often gathered in rainy weather, and from flowers which have an abundance of pollen, which mixes with the nectar, and in cold weather often the honey doesn't ripen, and the stuff mixed with pollen in an unripe state is apt to ferment; in such cases it isn't good for wintering bees. There is a difference in the source, and it all depends upon that and the weather. There are several kinds of fall honey. Some are perfectly good. Buckwheat honey is always good. Goldenrod is good. Boneset and other flowers that grow in swamps, milkweed, etc., if honey is gathered in wet weather it is apt to be bad for the bees.

Mr. Dadant—I see there is a great deal of difference in locality. We have one apiary in particular, but I have had 3 apiaries (have 2 today) that are in reach of the Mississippi River bottom. This is very swampy. The bees gather honey from the blossoms that grow only in damp ground—the Spanish-needle, for instance. Those apiaries winter as well as any other. Mr. Taylor is right for his own locality. It is quite likely that boneset honey is bad. Heartsease is all right. Its honey is very thick, very rich, and all right for bees to winter on. We don't lose any more bees from those apiaries on the Mississippi River bottoms than we lose in apiaries producing almost exclusively white clover honey. The greatest risk is in unripe honey, or in a suddenly cold season when the bees must go into winter quarters with unsealed honey. The honey gathers moisture from the atmosphere. In the main, Mr. Taylor and I agree as to conditions. Fall honey is not bad for bees if properly ripened.

Dr. Bohrer—We have no trouble unless we have excessive rainfall and moisture. If honey is not properly evaporated, and poorly sealed, there is trouble. I have never had but one case of dysentery among my bees. The sun's rays did not strike the hive. It had no chance to evaporate, and the bees had no warmth in the hive to evaporate it. It may have been the chemical condition of the atmosphere. I don't know. The honey seemed to be thick enough. At one time I took 3 frames out of the hive, but it was not all sealed. I wouldn't have fed it to the bees, but we used the honey up before it spoiled. At one time, when I was living in Indiana, there were thousands of colonies died of cholera. The honey soured right in the combs, in the apiaries and in the cellars, and dysentery among the bees was the result. It was not contagious, for as soon as warm weather came I saved the bees. The same trouble that killed the bees then existed all through the season. The condition of the weather has a great deal to do with it, excessive moisture in the atmosphere.

Mr. Wilcox—My opinion is entirely with what has been said. My opinions are based upon experience. Fall honey is not injurious because it is fall honey. It is injurious for other reasons. Boneset honey is bad. Honey-dew is always undesirable. That is, the honey-dew from aphides. The cause of fermentation does not depend upon the fact that it is gathered late in the season, but upon the conditions when it is stored in the hive. Left in the hive and the colony becoming weak, the honey would absorb moisture from the air and become poor honey. If the bees keep it covered it is all right. The combs absorb moisture and the honey becomes thin and unfit for food.

Mr. Wheeler—I have a little experience that proved to me very definitely that honey-dew was not detrimental to bees. A friend of mine where I keep the bees in the summer time, at La Grange, Ill., suggested to me when I moved my bees up to the sweet clover in July, that I let his stand there. There were 11 colonies. They went to work right away, and worked all through August and September and filled the hives. I was talking to Mr. Burnett about it. We thought now was the time to find out whether or not honey-dew is fatal to bees. Under the same conditions as my bees were, his bees came through in tip-top good shape. I don't believe there was an ounce of honey but was gathered from the aphides. But they wintered well on it.

Dr. Bohrer—Fall honey is good winter food. As good a winter food as my bees ever had is heartsease. My bees load the hives with it and they always winter well on it. It is a very dark honey. (*Continued next month.*)

By W. A. PRYAL, Alden Station, Oakland, Calif.

Honey and Lemons.

Here are two extremes—honey and lemons. One is sweetness for the gods; the other sourness personified. Yet, I am going to show that they go well together; that they can be used not only by the bee-keeper but by everybody.

Have lemons and honey in your home and you need never be sick—provided you be a wise consumer of them. Honey may be used all the time; lemons may be used as frequently as you wish, and the oftener the better. I have used honey and the juice of lemons for colds, and there is no better remedy, I believe. In preparing lemon candy use some honey in the mixture, and it will be all the better.

The medical fraternity well knows the value of lemons; not so many are acquainted with the medicinal properties of honey. I am going to quote a couple of paragraphs about the lemon I found in a paper. Instead of using sugar in some of the remedies, honey may be substituted with advantage:

"Lemonade made from the juice of a lemon is one of the best and safest drinks for any person, whether in health or not. It is suitable for all stomach diseases, excellent in sickness, in cases of jaundice, gravel, liver complaint, inflammation of the bowels and fevers. It is a specific against worms and skin complaints. Lemon-juice is the best antiscorbutic remedy known. It not only cures the disease, but prevents it. Sailors make daily use of it for this purpose.

"We would advise every one to rub their gums with lemon-juice to keep them in healthy condition. The hands and nails are also kept clean, white, soft and supple by the daily use of lemon instead of soap. It also prevents chilblains. Lemon is used in intermittent fevers, mixed with strong, black coffee, without sugar. Neuralgia, it is said, may be cured by rubbing the parts affected with a cut lemon. It is valuable also to cut warts. It will remove dandruff by rubbing the roots of the hair with it. It will alleviate and finally cure colds and coughs, and heal diseased lungs if taken hot on going to bed."

In addition to the above, I will state that when applied to the hands in connection with glycerine the hands are not so liable to retain propolis stains after being washed; in fact, it is much easier to remove the troublesome propolis when the hands are thus treated. The lemon-tree is a much easier tree to grow than most people imagine. We have a continuous supply of lemons from our trees the year round, and they are as fine and large as one could well wish to see. Bee-keepers in the greater part of California and all the warmer portions of the United States, should try to raise a few lemon trees. They will not regret it if they do.

Changing Names.

Botany is supposed to be a fixed science; that's what it is for. Yet there has been a good deal of shifting of botanical names during the past score of years. To some extent this is neces-

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sary, especially when there is a conflict of names. A few years ago our world-famous honey-sages were referred to the genus *Audibertia*. We now find them called *Romona*. As far as I have been able to run the matter down, there seems to be quite a mix-up in the shift. Of course "a rose by any other name would smell as sweet," and equally true our sage honey has been just as sweet when going under the name of Helen Hunt Jackson's queen of the Southern California sheep-ranch.

In this matter of shaking up of botanical names, Prof. Meehan, the great American horticulturist, bemoaned the craze for changing the name of plants. (Meehan's Monthly, Vol. 1, p. 48.) To quote him:

"Sound as this principle of priority may be in the abstract, in practice it would throw gardening literature into confusion. It takes a long time for nurserymen and florists to familiarize the community with a plant's name. They can not be expected to re-advertise over and over again to make corrections, because 'somebody blundered.' Meehan's Monthly will feel bound to continue names already in use, however wrong they may be in the abstract, provided they are the names adopted in some standard work. Plants named in Gray, Chapman, Coulter, or Watson, may not always be the strictly correct names—but it seems that it is best to allow these leading works to correct their own errors, if we would keep from endless confusion in nomenclature."

Here I might mention that our world famous big trees of Calaveras and Mariposa counties, wander about, figuratively speaking, over the face of the globe, under no fixed name. European botanists seem to persist in the use of *Sequoia Wellingtonia*, while we use *S. gigantea*. Even our famous redwood was previously called *S. gigantea*, so that it is not botanically entitled to be styled *S. sempervirens*, and, it is claimed, the Big Tree should not be called *gigantea*, for, by priority, the redwood was so named first. A patriotic doctor and scientist in San Francisco in the early days suggested that the Big Tree be called *Washingtoniana Californica*—a long but very good name.

Since the above was written I have received a letter from the director of one of the largest botanical gardens in the world, in which some question is raised as to the correctness of the name we have for half a century and more known our Century Plant by, namely, *Agave Americana*. The plant is now up before the court on trial for its true name, and what the verdict of the jury will be I know not. The result will be given in these columns in due course of time.

The Flowering Wild Currant.

One of the very earliest native plants to bloom in California is the rose-colored flowering currant (*Ribes sanguineum*.) The plant is not only common along the coast of California, but is also found near the Pacific from British Columbia to Mexico, even extending over the borders of those countries. Here it begins to bloom before Christmas, oftentimes before it has put forth its leaves. Further south it blooms sometimes as early as November. When in full bloom during January the plant presents a pretty appearance with its wealth of drooping, many-flowered racemes. The flowers are sweetly fragrant, while the leaves exhale a rather pleasant pungent odor. It is worthy of a place in any garden; our folk admire the specimen in our garden as much as they do some of the more "vogueish" plants.

The flowers are rich in nectar, as I have mentioned on a former occasion. During several weeks it is in bloom, the bees hold high carnival among the numerous blossoms.

RED FLOWERING CURRANT OF CALIFORNIA

Send Questions either to the office of the American Bee Journal, or to
DR. C. C. MILLER, Marengo, Ill.
Dr. Miller does *not* answer Questions by mail.

Best Extracting Frames and Sections—Section Foundation.

1. Please give me information on using home-made frames such as Langstroth, without comb foundation, for extracted honey, and also for the lower story? Would the bees start without any trouble if there were no foundation for them to start on? and how would it be to use one-pound sections without any foundation?

2. What kind of foundation would you recommend for honey in one-pound sections?

3. What kind of one-pound sections would you recommend for comb honey.

PENNSYLVANIA.

ANSWERS.—1. My good friend, don't for a minute think of using either frames or sections without foundation, unless you want the bees to build crosswise part of the time. At least have starters, and it is generally considered real economy to use full sheets.

2. Some prefer "extra thin," but all things considered my own preference is "thin."

3. Different markets may prefer different kinds. Probably the most generally popular section is the 4¼x4¼x1⅞, open top and bottom.

Why Didn't They Store Honey?

I put 80 colonies of bees in the cellar last fall. I had a queer experience with them last season. Four colonies began swarming about June 8. The queens were clipped and they would swarm out every 2 days, and I kept the queen-cells all cut out. But the second day I would find new cells built up again, which I would also cut down each time, and the queen-cells looked as if they were worker-bees about half grown. The old queens were, one full-blooded golden Italian, and 3 hybrids, and good breeders. They were good, heavy colonies, and had plenty of room in 10-frame hives, with 2 or 3 supers. But they didn't store any honey above. I could find no reason for their acting so. Can you give me any information or remedy? WISCONSIN.

ANSWER.—There was nothing unusual in the case, and you may count on it as the regular program. The queens were clipped, and returned to the hive with the swarm, and so long as the queens were there they would continue rearing queen-cells and swarming. Sometimes, however, a clipped queen is lost when the swarm issues, and in that case no swarm will issue till a virgin queen emerges. If you put your ear to the hive every evening a week after the first swarming (supposing the queen was lost or removed by you), until you hear the young queen piping, and the next morning destroy *all* queen-cells, there will be no more swarming.

Using Hives and Supers after Foul Brood.

Last spring I bought 3 3-frame nuclei and started in to learn bee-keeping. They developed rapidly, but got foul brood. It was late in the season and I burned everything but

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the hive-body and supers. A local authority told me to paint the inside of the hive with coal-oil and burn it out and the hive would do to use again. Now I did a *good* job of this, I know, and I then took sand-paper and cleaned off the charred particles. The bees did not go into the supers; that is, they never did anything towards drawing out the starters, or even put a particle of honey in the bait sections. The same person told me that as no honey was carried into the super they would be safe to use. I burned the sections and separators.

Now, can I use those hives and supers again? They are are all new, and I don't want to lose the whole thing. I have just finished reading "Forty Years Among the Bees," but failed to find what I want to know. NEBRASKA.

ANSWER.—Very good authorities say you are perfectly safe in using the hive and supers without burning out or doing anything to them. Certainly the burning could do no harm.

Getting Increase Otherwise Than by Natural Swarming.

1. As I don't like to have natural swarming, do you think it would be safe for me to try Alexander's method of increase? (Page 423, in Gleanings for 1906).

2. Is there no danger of the bees all entering the top story, leaving the queen all alone in the lower?

3. When taking the top story off, how many bees should go with it?

4. Do you consider the above method better than allowing natural swarming with clipped queen, or dividing by forming nuclei? I have two bee-books, "A B C of Bee Culture" and "Forty Years Among the Bees," so I have read of different methods, but I should think the above to be best. Having only a few colonies I don't want to run the risk of losing any. MINNESOTA.

ANSWERS.—1. What's best for one is not best for another. Mr. Alexander depends largely upon late harvests, has thousands of acres of buckwheat, and for him it is all right to divide his colonies and increase his crops. For me it would be a dead failure, and I'm pretty sure it would be for you.

2. Enough bees will remain below to care for the queen.

3. I think Mr. Alexander takes all that are in it.

4. No, not for me, and probably not for one in a thousand in the North.

Moving Bees—Increase—Italianizing —Best Hive for Wintering Out-doors.

1. Can hives be moved from their original place, say 50 or 100 feet without confusing the bees? Are there any special rules to be observed?

2. I have 4 colonies of bees. How many times can these be increased by the end of the season without weakening them too much? How should this be done?

3. My bees are hybrids. Could I change to Italians? If so, how?

4. What kind of a hive is best for wintering out-of-doors in this latitude?

WEST VIRGINIA.

ANSWERS.—1. If you move them before they have had a spring flight there will be no trouble. After that there will be lots of trouble, as the bees returning from the field will return to the old location. One way to help is to fasten the bees in the hives in the evening or very early in the morning before moving; after moving, leave them shut in till the middle of the day, pound on the hive until the bees roar, and then let them out, putting in front of each entrance a board for them to knock their noses against.

2. In a very poor season once may be too often. In a phenomenally good season an expert might increase 8 or 10 times. On the average, doubling will probably be enough. You have your choice of all the different ways—natural swarming, shaking swarms, the nucleus plan, etc. A thorough study of principles in your bee-book, and a careful consideration of your conditions will help to decide which way is best for you.

3. Yes, by introducing Italian queens. But you can take a short cut on that. Introduce an Italian queen early enough into a colony, give it frames of hatching brood from other colonies to make it very strong, so it shall swarm first. Call this No. 1. When it swarms, hive the swarm on the old stand, set No. 1 on the stand of the strongest remaining colony, and move the latter to a new location. In a week or 10 days a second swarm will issue from No. 1. Set the swarm in place of No. 1, and put No. 1 in place of the strongest remaining colony, setting the latter in a new place. A day or 2 later No. 1 will swarm again, and it will continue to swarm several times more, and every time you will put the swarm in place of No. 1 and put No. 1 in the place of the strongest remaining colony. Thus you will have an Italian queen in every one of your colonies.

Queer Swarms—Price for Honey—Wintering Bees on Platform.

1. I had trouble with my bees last year. They would swarm and after I had hived them they would come out of the new hive and go back to the old home hive. They would probably swarm again the next day with the same results, doing this several times. One colony did this 5 times. What was the reason?

2. Do you think 10 or 12½ cents cash is enough for comb honey in the home market, or could I get more by shipping to some firm buying honey? This is all I can get here, and it is hard work to dispose of it at these prices.

3. I place my bees on a platform about one foot high and set the hives on this about one foot apart, to winter them. I then put hay or straw around them except in front of the hive. I put boards or rubber roofing on top of this to keep them dry. Do you consider this a satisfactory way to winter bees?

IOWA.

ANSWERS.—1. Bees are freaky creatures, and it isn't easy always to give reasons for all they do. A swarm often deserts the hive in which it is hived because it is too hot and close. The remedy is to have the hive shaded, and with large opening for ventilation. Swarms leaving their hives in this way, however, are more likely to take French leave than to return to their old homes. Sometimes a queen is not able to fly with the swarm (it sometimes happens that bees tear a queen's wings), in which case the bees may return immediately to the hive, or they may settle and allow you to hive them, and then return.

2. No, it is not enough, if the honey is first-class and put up in good style. You may, and you may not, do better by shipping; but you can find out by inquiry. A very small outlay in advertising might bring good results. But you should make some effort before being satisfied with too low a price.

3. Very likely; although surroundings may make a difference.

Preventing Afterswarms — Chunk Honey vs. Section Honey.

1. I intend to let my bees swarm once, and if possible prevent any afterswarms by cutting out cells. Would you advise me, when a colony swarms, to put the swarm on the old stand, removing the parent colony to a new location? Of course we are told in our hooks to hive in this way, but I would like to have your opinion about it.

8. Can I get more surplus in this way than to leave the parent colony on the old stand, putting the swarm in a new location?

3. If there is any difference, which is the most likely to leave, a swarm with a young queen say one year old, or with one 2 or 3 years old?

4. I see some bee-keepers advocating the production of chunk honey instead of section honey, claiming it is cheaper than to fuss with sections. What is your idea about it?

TEXAS.

ANSWERS.—1. Yes, the plan is good. Only instead of cutting out cells I would set the old hive close beside the swarm, and then a week later move the old hive to a new place. Then the bees will destroy the cells themselves.

2. Yes, in nearly all cases.

3. One is perhaps as likely to abscond as another: if any difference the younger queen might be first to go.

4. If I were in Texas I'd likely go in for bulk honey.

Difference in Bees—Drone - Laying Queens and Laying Workers.

My bees are all hybrids, and during the past summer I sent for Italian queens from 3 different breeders with a view to improving the stock. The queens were accepted and bred up strong in bees, but the fielders issued about a week after the honey harvest was past, so that there was nothing for them to get in the fields. I could see no difference between 2 of the colonies of Italians and our own, except that they had a little more yellow on them. The bees of the third colony had still more yellow than the other 2, and are very pretty to look at, but—oh, my! such robbers! Even when the weather wasn't fit for our own bees to fly, that colony would be out sneaking around at every hive, trying to get in.

One cold morning, when few bees were flying, I took a chunk of comb honey out about 20 rods from the apiary. I waited 10 minutes, and in that time there were about 100 of the real yellow bees on the comb, and about 10 hybrids, and half an hour later there were thousands of yellow bees, with few hybrids. The wind was coming from the direction of the apiary, so that the bees would have to be out in the field in order to smell the honey. There were 57 colonies of hybrids.

1. Is it safe to breed from such a queen, and will they not be liable to *rob the others out of house and home?*

2. Different writers claim that drone-laying workers are the only ones guilty of laying eggs to the sides of a cell. Last fall I found a colony with a drone-laying queen of 1907's rearing, and I found lots of worker-cells with 2 and 3 eggs in a cell, some at the bottom and others stuck to the sides half way down. In such a case, is the colony liable to have laying workers acting in conjunction with the drone-laying queen?

3. Another colony had a queen that laid both drone and worker eggs in worker-cells, but there were mostly small drones hatching out. The queen was a wee, small thing, so I killed her, took out all the brood I saw, and introduced a tested queen. Eleven days later the queen was dead in front of the hive, and on looking through the hive found 3 small queens, and 3 open queen-cells in a bunch, but with not an egg nor a particle of brood elsewhere in the hive. Two of the virgins were killed, and the other will be a drone-layer, as it was October 10 when she was hatched.

4. Did I do right to kill that queen, or would she have turned out all right next year?

ONTARIO.

ANSWERS.—1. It will probably be all right to breed from her. It looks as though it might be that the robbers are unusually active and the robbed rather lazy, and that the same activity in robbing might show in a more favorable direction in time of a good honey-flow.

2. I think I never heard of laying workers being present with a laying queen, at least for any considerable time. Queens sometimes lay eggs on the sides of cells.

3. The probability is that the queen you killed would have got worse instead of better, and you did right to kill her. The drones were small *because* reared in worker-cells.

Air-Space in Super Cover.

Should there be an air-space between a ¾-inch flat super-cover and ⅜-inch telescope cover 9 inches deep, with painted tin over the top? The hives are set out in the open and are run for comb honey.

The above is a regular Danzenbaker super and the Root cover and K telescope cap. It amounts to 2⅜-inch boards and a sheet of tin (or galvanized iron), all tight together.

PENNSYLVANIA.

ANSWER.—An air-space will be warmer in cold weather, and cooler in hot weather; for that air-space is a poor conductor of heat.

Foul Brood—Hybrids vs. Italians—Wintering Bees Under Bank Barn.

1. Can foul brood be cured without destroying all the bees? If so, how?

2. What is the cause of foul brood? Is it some poison that they bring in with the pollen that kills the brood?

3. Can bees gather honey and pollen at the same time?

4. How many eyes does a bee have?

5. Are hybrids just as good to gather honey as full-blooded Italians? Will they gather just as much?

6. Can bees be wintered under a bank barn even if it freezes where they are? Is it better than leaving them out-of-doors where they have no protection whatever? SUBSCRIBER.

ANSWERS.—1. No need to destroy the bees; the disease is only in the brood. The McEvoy plan is generally used in curing. In the honey season, when the bees are gathering freely, remove the combs *in the evening* and shake the bees into their own hive; give them frames with comb-foundation starters on and let them build comb for 4 days. The bees will make the starters into comb during the 4 days and store the diseased honey in them which they

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took with them from the old comb. Then in the evening of the 4th day take out the new combs and give them comb foundation to work out, and then the cure will be complete.

2. The disease is caused by a bacillus, generally through getting honey from a diseased colony.

3. Yes.

4. Three single eyes and 2 compound eyes, each of which is made up of some 6,000 little eyes.

5. Yes, the first cross or so, but later not so good.

6. Generally they do better out than in anything confined, unless the temperature is up to about 45 degrees most of the time.

Dudley Tube Method—Comb or Extracted Honey?

1. Do you practice and recommend the Dudley Tube metbod, as described in Bee-Keepers' Review for August, 1907?

2. Everything considered, which do you think the more profitable, comb or extracted boney? VIRGINIA.

ANSWERS.—1. I have had no experience with it.

2. "Actions speak louder than words," and as I am running for comb honey exclusively it is pretty clear that I believe that the most profitable. There are those who say extracted is the most profitable. I think they are right. I think I am right, too. You see, it's a matter of conditions. The market, the pasturage, and a number of other things have to do with the case, and each one must find out for himself. Other things being equal, I think I should lean toward extracted, for it's a much simpler matter to work in that direction, especially if one wants to keep down swarming.

Wintering on Sugar Candy — Observation Hive for Wintering—Getting Increase and Honey.

1. I have 9 colonies which are wintering on sugar candy. Would you advise me to put them out quite early, or late?

2. Would a colony winter all right in an observatory hive with 3 frames, the hive being set in a south window so that the bees could fly out-doors when the weather was favorable? The bottom-board is made of 2-inch lumber with grooves in it to pour syrup in.

3. Would the following plan be a good way to increase? After the bees get strong in the spring put a hive with empty combs on a stand. Then shake the queen and bees into this empty hive. Also put in one frame of brood. Then put on a queen-excluder and on top of this excluder place a super. Then put another excluder on the super. Then place the queenless colony on this excluder, leaving them to rear a queen. After the queen is hatched bore a hole in the back end of the hive to let her out to be mated. After she is mated plug up the hole.

4. Would the above plan be all right to secure surplus boney? IOWA.

ANSWERS.—1. Take them out the same time as you would if they were wintering on honey. Certainly not too early. If they seem in good condition and have plenty of stores, they will do well to stay in the cellar till there is something for them to do outdoors, say when soft maples are in bloom.

2. Such attempts have not generally been very successful.

3. In theory it seems all right; in actual practise the queen above too often fails. Better try a single colony before you try it on a larger scale.

4. It might do for extracted, but not for comb honey. Brood-combs above would darken the capping of sections.

Packing Bees for Winter.

Mr. Danzenbaker, in his "Facts About Bees," instructs one to pack bees in his hives, as follows:

Take cover off brood-nest, put on a Hill's device (or boards laid across frames to give opening over frames), oil-cloth over top, super with cushion, super cover, burlap, paper, carpet, roofing-paper, or other packing, with winter case 11¼ inches deep over all. Now that is very warm packing, but the depth is not enough to winter well in this climate.

What do you think of raising the brood-nest and placing the empty super *under* the brood-nest on the bottom-board, leave the super-cover sealed by bees, place cushion on super-cover, pack with paper, etc., as above and shove winter case down over all? That will give 5¼ inches more depth and will hold the warm air that much longer, before crowding out. When spring comes, put brood-nest down on bottom-board. I have seen bees in a box-hive 12 inches square and 2 or 3 feet high made of one-inch hemlock boards, with no packing, winter on the summer stands 100 miles farther north than here, and come out alive. If it is not the lack of depth that makes them winter badly, what is it?

PENNSYLVANIA.

ANSWER.—The wintering question is a very complicated one, and the longer one works at it the less one seems to know about it. One settles down that deep frames are a necessity for wintering, and then comes along some one saying he has perfect success with very shallow hives. In any case it does seem as if it ought to be a good thing to have room enough under the bottom-bars so the dead bees would never clog the entrance or fill the space under the frames. Your plan is at least worth trying, and it might be a good plan to try both plans side by side and then you will tell better which is preferable.

That very large hive doesn't prove much one way or the other, except that a very strong colony will winter almost any way, for the likelihood is that a colony left to its own way in such a mammoth hive will be very strong.

Location of Queen-Cells.

I was pleased to see that picture and account of that queerly located queen-cell on page 39, sent by Dr. Miller. Bees generally do things to make themselves comfortable for the time being. So in selecting a place for a queen-cell, if the colony is very strong and the ventilation defective and the weather warm, all other things being equal, the queen-cells, as a rule, will be placed away from the center of the hive, at or near the end-bars and bottom-bars. Weak colonies generally build near the center of the brood-nest. Wide bottom-bars obstruct ventilation and have a strong tendency to drive the bees out of the brood-nest, and especially so in hot weather. I think the colony that built that queen-cell was a very strong one. Will the Doctor kindly tell us if I am right or not? S. T. PETTIT.

Alymer, Ont.

ANSWER.—I have no memorandum of the colony from which that cell was taken; but it's a very safe guess to say it was strong enough so that bees were clustered well under the bottom-bars. My guess would be that the entire space of 2 inches below bottom-bars was well filled with bees. I have had several cases of the kind since I have allowed the 2-inch space below, with a rack that prevents building down, yet still allows the bees to cluster in the space.

Splints for Foundation—Feeding Candied Honey—Natural Swarming Wanted.

1. Please give me full particulars as to how to use splints in frames for full sheets of foundation. I use the Danzenbaker frame.

2. Do the bees ever cut the foundation on each side of splint and refuse to build around it?

3. Having never used any splints, would you advise me to use them in all my frames on the start?

4. Is there any way that I can make the foundation hang perfectly straight in Danzenbaker frames without using either wires or splints? I would not use anything in such shallow frames as the Danzenbaker, only my foundation is so uneven and wavy—or "twisty" might express it better—after I get it in the frame. Sometimes the bottom edge of one sheet will be curved clear over to the next frame.

5. How are chunks of candied honey put in dishes in an empty super over a colony, in the spring, for stimulative feeding? Of course, there would be a small hole for the bees to come up and get the honey.

6. I want my bees to swarm naturally. If I introduce new queens just before swarming time, would that be apt to stop, or delay, swarming? PENNSYLVANIA.

ANSWERS.—1. Put the splints in vertically, 1 in the middle, 1 an inch or so from each end, and then 1 half way between the middle splint and the splint at each end. That makes 5 for each frame. For convenience in putting in, the splints should be ⅛ inch shorter than the distance between the top and bottom bars. Put them in a shallow dish of hot beeswax. They will foam up as the moisture fries out of them, and when they stop foaming they are ready to use. If used too hot, there will not be enough wax covering the splints. If too cold, they will not bed so well into the foundation. A little practice will allow you to get just the right heat. Have a board that will fit just inside the frame for the foundation to rest upon; lift each splint and lay it in place with a pair of nippers (it doesn't matter whether the ½-inch space is left at the top or bottom or whether partly at both), while an assistant presses down each splint with the edge of a little board kept constantly wet.

2. There is no trouble if the foundation is given to the bees at a time when they are at work, so it will be built at once. If given when there is nothing coming in, there may be some trouble, and there is sure to be trouble by their digging a passage immediately over the bottom-bar.

3. You would probably be quite safe in using all.

4. No; the only thing I can say is to have the hive perfectly level from side to side.

5. You have told about all there is of it; only with a very small hole the bees may be slow about coming up to take the feed. Give it when it is warm enough for the bees to come up freely, turn over one corner of the quilt so there is a very large opening, and after they have learned the way you can leave a very small hole at the corner.

6. Yes, it would likely be some hindrance, and a very great hindrance if you replace old with young queens.

Alsike Clover Seed.

Where can I get some good alsike clover seed? ILLINOIS.

ANSWER.—Any store that sells red-clover seed and other seeds ought to be able to furnish alsike, since it has come into so common use. You will also find it advertised in this paper now.

Keeping Bees on a Small Lot.

1. I have a small lot in my back yard about 40 feet square. Can I successfully keep from 60 to 80 colonies of bees on it? If so, how would you place them?

2. Will they molest my neighbors if I put a board fence around? How high should the fence be?

3. Is it lawful to keep bees anywhere in the State of Pennsylvania in this manner.

PENNSYLVANIA.

ANSWERS.—1. On 40 feet square 100 colonies can be kept easily. More if 8-frame hives. Put them in groups of 4. Set a pair close together, then a space of 2 or 3 feet, then another pair, then a space, and so on until the row is filled. Then put another row close to this, the hives facing in the opposite direction, the hives of the 2 rows being close together, back to back. Then start another row facing the last row, with a distance of 3 or 4 feet between, and so on. With only 60 hives you can have more space between rows. The fundamental idea is to have groups of 4 hives, the 4 being as close together as they can be without actually touching.

2. A fence 6 feet high or more will be a great help. It need not be such a very close fence; the bees will not be likely to go through cracks of 2 or 3 inches. Vines running on some kind of trellis will be effective as well as ornamental.

3. I think it is. Be sure, however, to keep on the safe side by doing all you can to avoid trouble. Don't have bees that are cross; and don't stir them up when they might sting passers-by.

Absolutely Pure Honey—Insuring Bees—Valuable Ideas on Bees.

Last month I sent in some questions. They were answered on page 55. I wish to draw your attention to one question and answer in particular. This is question No. 8, "Sugar syrup in section honey." Your answer to this was "Yes." That is what my guess would be to your answer, but the funniest part of it is this: If you have a strong colony of bees storing honey in sections from white clover, or in fact, any good, fast-yielding honey-plant, and all of a sudden the supply is cut off from drought, the bees will then begin filling up the unfinished sections from anything that has the least bit of sweetness, such as drippings from molasses casks, decayed pears, grapes, etc., and will even venture into candy factories, and load up with all kinds of flavors in sweets, and will invariably fly to their hives and deposit all this highly flavored sweetness

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in the sections. Now, then, Doctor, here is where the bees fool the bee-keeper, the consumer, and the pure food law. What I wish to know is, if you can tell me how the bee-keeper, consumer, and the pure food law are going to know when there are foreign substances in comb honey. Is there an instrument on the market that will tell if comb honey is pure? If there isn't, then I will venture to say that every comb-honey producer in the world will violate the pure food law, because no matter how fast honey is coming in, you will always find some bees that will insist on loitering around bakeries, grocery stores, and candy factories, loading up with the stray sweets of those places. This is generally the rule with my bees in this city (Troy, N. Y.). Now, how am I going to overcome this difficulty, as I do not wish to violate the pure food law by putting on the market comb honey that is not pure?

2. Can you give me the name and address of any insurance company that insures bees when housed in buildings?

3. In your opinion, what race of bees is most suitable for New York State?

4. Doctor, why don't you tell us in the columns of this Journal some of your good and valuable ideas that you use in connection with the management of your apiary? You know right well that we would all be pleased to read them over a great many times.

NEW YORK.

ANSWERS.—1. I don't know. As you state the case it's entirely outside my experience, and if I were in a place where my bees would do as you think yours do, I'd go out of the business. But I can't help wondering a little whether you may not be mistaken about your bees. One thing that makes me think it possible is, that you are so very wide of the mark in venturing to say that without a certain instrument "every comb-honey producer in the world will violate the pure-food law." I spent a delightful day once at one of Mr. Mercer's apiaries in California, away out in the lonely California hills, and no matter how fraudulently his bees might be inclined they just couldn't violate the law by storing from candy factories, molasses barrels, etc., for nothing of the kind was within reach. And there are enough situated like him to make your assertion a very reckless one. Neither do I believe my bees and the bees of others any more guilty. It is true that when the harvest stops bees will skirmish around for anything in the line of sweets, but in this locality, at least, they never get it in quantity enough to meet their daily needs, to say nothing about storing.

2. No, but probably your local insurance agents can tell you all about it.

3. So far as I know, Italians.

4. Bless your heart, that's just what I'm trying to do all the time. There isn't a number of this paper in which I don't give something of my experience, generally in the form of opinions based on experience. [Dr. Miller's book, "Forty Years Among the Bees," contains quite a number of his "valuable ideas."—EDITOR.]

Queens in Cells by Mail—Average Yield Per Colony—Painting Shipping Cases—Comb Honey Shrinking.

1. Would queens sent by mail before hatching (in queen-cells) during warm weather, carefully protected, stand a chance of living? Has it been tried? What do you think of the plan?

2. Has the Hoffman frame the same measurement for the top-bar? If not, which do you prefer, in width?

3. Can you tell me your average yield of honey per colony on a run of the past 10 years?

4. Do you consider it advisable to paint shipping-cases white after they show age, stain, and shop-wear?

5. If I should weigh each section of honey and mark its weight when perfectly ripened and cased, would there ever be any danger of its shrinking in weight from storage?

ROCKTON.

ANSWERS.—1. Virgin queens have been sent by mail successfully; in Switzerland more or less success has been obtained in sending eggs; but I think I never heard of sending a young queen in a queen-cell. If the young queen were just about ready to emerge when mailed, she ought to go through all right, providing that would be any advantage over sending a virgin. At any time earlier than that it would hardly be worth while to try a sealed cell; if the orthodox teaching is correct any carelessness in handling while the young queen is in the pupa state results in crippled legs and wings. I see no reason, however, why an unsealed cell might not go through all right. You have, I think, an untried field to experiment in.

2. I don't understand: "same measurement" as what? Top-bars of Hoffmans have been as narrow as 1 inch, and perhaps as wide as 1⅛. I prefer the width that will make bees build the least between 2 top-bars, and that is probably about 1⅛, supposing the spacing to be 1¾ from center to center.

3. I can not tell without a lot of looking up, and if I did the next 10 years might not be the same. Perhaps it will be about as satisfactory to say that the crop has varied all the way from nothing to an average of about 120 pounds of section honey per colony.

4. I never get shipping-cases back, and never painted one. For a home market it might be better to paint them than to have them look dirty.

5. I hardly think so.

Foolish Questions?—Hardly.

I sent several questions to Dr. C. C. Miller last month, but was very much disappointed not to find them answered through the columns of this Journal. I don't know, but probably the Doctor thought they were so foolish that he could not spare the time to answer them. However, I would consider it a very great favor to hear what he has to say about them.

NEW YORK.

No, I'm not at all likely to think questions too foolish to answer. The memory of the many, many questions that came up in my early experience is yet too fresh to make me hesitate to let in the light wherever I can. Of course it is not expected that in this department things will be repeated that are to be found in every book on bee-keeping; but after one has read all that is to be found in the text-books, there are plenty of questions still to be answered. So, if answers to your questions have not appeared by the time this is in print, you may be sure that is not because of the character of the questions, but because your letter has miscarried, or because of some other accident; and if you will kindly repeat the questions I will take pleasure in answering them to the best of my ability. Bear in mind, however, that if a letter is not received before a certain time the answers can not appear until a month later.

Italians vs. Hybrid Bees.

I started last spring with 4 colonies of good hybrid bees. I hived 9 swarms, and sold $20 worth of honey at 20 cents per pound. The honey-flow lasted about 3 weeks. Before and after that it came very slowly. Now I have 12 colonies in fairly good condition. One was lost by robbing. I learned a great deal by it. The last of June I put on some unfinished sections, and found nothing added to them during the season. Two colonies had ample stores for the winter, and 2 I am feeding with sugar syrup. Now I want to improve in quality and quantity.

1. Should I introduce Italian queens to such colonies as seem to lack as honey-producers?

2. Should I divide the strong colonies so as to make 2 or more? If so, when and how should it be done?

I have "A B C of Bee Culture," and the American Bee Journal.

KENTUCKY.

ANSWERS.—1. Most emphatically it is advisable to get in better queens wherever the work of a colony shows that the bees are not up to the work. Sometimes, however, a colony may do poor work when the queen is not at fault, as when in a weak colony that for some reason has not had a fair chance to become strong. Whether it is better to buy pure Italian queens depends on what stock you have; for I take it for granted that you mean to buy the pure stock. At any rate, get a good queen wherever there is a poor one, either by buying or by giving a queen from your own best stock. A big lot depends on the quality of your stock.

2. Whether you should divide your strong colonies depends on circumstances. If you care for honey, and not for increase, of course there should be no dividing. If you care for increase, then it is a question whether it is best to depend upon natural swarming or to take the matter of dividing into your own hands.

If you prefer to do the dividing yourself, there are so many ways that it is hard to say what may be best for you. Possibly the nucleus plan, taking away from one of your best colonies its queen with two frames of brood and adhering bees to form a nucleus, and about 10 days later dividing the colony into as many 2-frame nuclei as you can, having one or more queen-cells for each, and gradually building up the nuclei into full colonies by giving brood, or brood and bees, from other colonies. It will help if you previously build up very strong the colony to be divided, giving it frames of sealed brood from other colonies. You can in that way have it with 12, 15, or more frames of brood, and of course the more brood the more nuclei. If you happen to have the book "Forty Years Among the Bees," you will find the matter of artificial increase more fully treated than in most of the text-books.

Management for Increase of Honey.

In the fall of 1906 I had 2 colonies of bees which were blacks. I decided I would introduce some new queens to them. Well, I looked them over and found only one with straight combs, so I ordered one queen. I thought the other almost too much to undertake so late in the fall. I succeeded in introducing her all right. Both colonies came through the winter very well. Last spring being a very bad one on bees here, being so cold, they got but little honey from fruit-bloom. Then I had one Italian and one black colony to run the race in 1907. Well, I never saw bees work like those yellow bees did. They seemed to be in a big hurry all summer, and the blacks took times easy, the only time they were in a hurry being when they heard it thunder and rain, and then they made very good time to get home.

In the fall of 1907 those yellow bees had stored 121 pounds of comb honey, and the blacks 45. This is correct, for I kept an account, and now I have both Italian colonies for 1908.

1. Can I increase to 5 colonies from the 2, and get 500 pounds of honey?

2. Will this plan do: About the first of May take the one with crooked combs, lift from the bottom and place an 8-frame hive with full sheets of foundation on, and then set the bees on it and smoke them down into it. Make sure that you have the queen below and then raise the top hive up and place an excluder between. Let them stand say 5 days and then set the old queen and hive on a new stand. Then 5 days later take a new hive with full sheets of foundation and divide the crooked combs and bees, each one to have 4 frames of foundation and a queen-cell.

If this is the wrong road to travel, please show me the right one.

VIRGINIA.

ANSWERS.—1. I can only make a guess in the case, but my guess is that if you increase from 2 to 5 you'll fall a long ways short of 500 pounds of comb honey in surplus. Please remember that it takes honey to make 3 new colonies, and a lot of it.

2. Sorry to tell you that your plan is not very good. If you wait 5 days before taking away the old colony, there will not be very much brood young enough to start good cells from. Beside that, the bees will be in too discouraged a condition to rear good cells, for all the field-bees will desert and go back to the old stand, and no honey will be carried in.

In the first place, you'll probably find it harder than you think to smoke the bees down. It will be much easier to smoke and drum them up. Then move the queen with its swarm to a new stand, without waiting any 5 days, and the old colony on the old stand will be in good shape to start the best kind of cells. A week later make your division. It will be well, also, at that time to put the hive with the old queen back on the old stand, and put one of the nuclei on the stand you took her from.

Storing Much Pollen in Frames of Comb Honey—Personal Reminiscences.

Last winter I made a number of supers deep enough to take in frames 6 inches in the clear, and was much pleased when I found the bees had filled nearly every frame. They worked in them much better than in the sections. But imagine my disappointment when I discovered that fully ¾ of the cells were filled with pollen in all the frames, but not a single brood-cell in any part of them. I have sometimes, but not often, found brood in the sections, and the same with pollen, never having used a queen-excluder, though I have a number on hand.

1. What, in your opinion, caused the bees to store so much pollen in these frames?

2. Would a queen-excluder have prevented it? I have an idea that the bees thought it a good place to rear brood, so stored a good supply of pollen in the frames, but evidently the queen thought otherwise.

I can not resist the temptation to trespass a little further on your valuable time. While reading your biography in "Forty Years Among the Bees," I was quite impressed with the similarity, in some respects, of our lives, though

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yours has been on a much higher plane than my own.

I was born on a farm (and have always lived on a farm) January 14, 1835, in the town of Wellington, Ohio, 8 miles south of Oberlin. In the spring of 1846 I moved with my parents, one brother and 4 sisters, to Winnebago Co., Wis., being the first white settlers in what is now 3 townships. Thirty years later I came to this county in Iowa, with my wife and 4 children, and in 1880 I bought the farm we now occupy.

In April, 1863, I bought my first colony of bees, in a box-hive, paying $6.00. You got yours in a "barrel" nearly 2 years previous. The next year an agent came around selling the "Langstroth" hive, or "farm rights" for that hive, carrying the idea that a colony once located in that hive, the bees would do the rest. Of course I secured some of the hives as soon as possible, and at the end of 2 years I had 7 colonies, and thought I was right in the business, but that fall I put them into a smoke-house to winter, and in the spring all came out—dead. I tried for a number of years with about the same results, to keep bees, till 1883 I bought 2 colonies, secured modern hives for swarms, and have been in the business ever since, keeping on an average about 40 colonies. I now have 43 in the cellar. With one exception, I think the season of 1907 the poorest I have known, my crop of section honey, including pollen, being about 26 pounds per colony, spring count.

But enough for the bee-side of my life. I think I was born with a great love for music, although neither of my parents were musicians. I can't remember when I could not sing (in a high soprano) all the old tunes, such as Balerma, Boylston, Ortonville, Arlington, and hosts of others, by the side of which, for pure harmony, this modern "hop-skip-and-jump" music holds no comparison. At the age of 7 years, I began to "sing by note." After I was 16 I made many a long "Sabbath-day's journey" attending meetings in 3 different school houses (we had no churches in those days), in as many different townships, where I had to "start the tunes." I have taught singing a good many winters, both in Wisconsin and Iowa. I now own a good old violin that I bought 51 years ago last September, at an expense of nearly 5 times that of my first colony of bees. It has been of great service to me for many years in meetings, Sunday-schools, and singing schools, and with the addition of a good organ, there has always been "music in our home."

We have reared 5 children, all of whom are away except the oldest son who runs the farm, and with his family of wife and 3 children lives in another house near by. My wife and I passed our 49th wedding anniversary January 25, 1908. Iowa.

ANSWERS.—1. Your question is not easy to answer. If the frames in the brood-chamber were shallow, that would help account for it. Even if not very shallow, if the brood was clear up to the top-bars, it would be nothing unnatural for the bees to put pollen above as a sort of border. To be sure, my bees often have brood clear up to the top-bar, but then there are sections above, and they don't seem so much like a continuation of the brood-chamber as your shallow frames.

2. A queen-excluder would probably have made little or no difference.

Your surmise that the queen and workers had different views is hardly tenable. Whatever the workers plan for the queen to do, you may generally find her carrying out, if not prevented by an excluder, and in your case there was no excluder. It is not at all uncommon for the bees to store pollen above the brood-nest, for convenience, and this was something in the same line.

Thanks for personal items.

Bee-Cellar Temperature — Bumping Bees Off Frames—Top and Bottom Starters—Afterswarms—Separators.

1. Why must the temperature be so exact in cellar-wintering, not over 50 nor below 45 degrees? Mr. Root claims that if the temperature can not be kept very close to these figures, better winter the bees out-of-doors. Ont-door wintering in Jones Co., Iowa, would mean (or would be liable to mean) anything from 50 above to 20 below zero, and that sometimes inside of 48 hours, or nearly so. I have seen the thermometer go down 40 degrees in 24 hours. Now if that wouldn't be a radical change on bees, I don't know what would.

Last year our cellar didn't get out of 45 and 50 degrees, at least at any time that I looked at the thermometer, and that was every few days. This year it has been the same, only it has stood most of the time at 47 degrees, but the weather has been very fine with no radical changes in temperature. Bees would have been all right out-of-doors so far.

When the cellar warms up to 50 degrees I open the inside cellar door in the evening, which in an hour or two reduces the temperature. The outside door has some cracks at the bottom about one inch wide, which seem to be about right for ventilation, and yet by being in the stairway for some time the air is warmed up some, and at the same time pure. Our cellar is 16x22 feet inside, 6½ foot ceiling, and dry. In 4 years' wintering in this cellar I have lost one colony, and it was no fault of the cellar.

But to tell the truth, after reading so many articles in the bee-papers and bee-books on wintering, I almost got "dizzy." Mr. Alexander says perfect quiet is one of the essentials in cellar-wintering. No doubt it is best, but if you were in our cellar a few minutes when the folks—little folks and all—were in the kitchen, oh dear!—well, the bees could probably swarm right in the cellar and you wouldn't hear them. Now, according to Mr. Alexander, I would figure if I never had wintered bees in there before that, I wouldn't have a bee left by spring.

When such men as E. R. Root, Mr. Alexander, and several others, lay out a plan for cellar-wintering, a young bee-man almost wishes "every day was summer," as he gets no relief until the balmy days of spring come and he can count up his bees. However, I don't propose to kill the goose that laid the golden egg. So I put them in November 20, after having 2 good days of flying. Any comments?

2. In bumping bees off of combs, as illustrated in Gleanings, do you bump queens and all on the ground, or do you look out for the queen. I take it you do. E. R. Root objects in, "A B C of Bee-Culture," to your tent escape for supers for the reason that the young bees are unable to get back to the hive. How about them bumped on the ground and in the grass?

3. Has any one ever tried putting a narrow piece of starter on all 4 sides of a section? If so, what would be the probable results?

4. Do I understand you to mean in Gleanings of Dec. 15, that success can not be obtained with top and bottom starters except that the two come very close together? How far apart could they be, and get good results?

5. Do you place the dove-tailed corner of a section on top or at the bottom?

6. In cutting cells to prevent after-swarms, how soon would it be safe to do it and be sure of not having a queenless colony?

7. Would this not be a good time to make increase if one so desires, while he had plenty of ripe cells?

8. A neighbor hived a swarm of bees last summer, clipped the queen, put them on full sheets of foundation, and the bees went to work and made considerable comb and stored some honey, but on examining them one day he was chagrined to find them gone. How could they go with a clipped queen? Where? It beats my time for a clipped queen.

9. I often read of bees in the cellar being "still as death." Isn't it very rare when one can't hear a gentle hum by placing an ear to the hive?

10. What separator do you consider best, fence or sawed wood? I ordered sawed wood, slotted top and bottom.

11. How do you think it would work, and could you see any benefit in boring five ¾-inch holes in a solid separator opposite the sections? Would this not give a little freer communication to the bees that so many claim to be an advantage? By cleaning them in lye the holes wouldn't hinder in cleaning by breaking out as they might do if scraped. Iowa.

ANSWERS.—1. I once saw a picture of a darkey on the top of a ladder, a pig scratching itself against the foot of the ladder, and the darkey calling down, "Go 'way, go 'way, pig; you'm makin' mischief, dar." I feel toward you a good deal as the darkey did toward the pig. When you try to get me to reconcile the different views as to things about cellar wintering, "you'm shorely makin' mischief for me." It's like a good many other things in bee-keeping, localities, conditions, etc., differ, and then something must be allowed for the uncertainty of the English language.

The cellar must be "not over 50 nor below 45." That's true or it's not true, depending upon how you understand it, and also somewhat upon circumstances. A cellar whose temperature stands most of the time below 45 degrees is not likely to be a good place to winter bees. If it stands most of the time above 50 degrees, and is kept constantly closed, as most cellars are, it is not likely to be a good place to winter bees. That is probably what was in mind when it was said the cellar must be "not over 50 nor below 45." But a cellar in which bees winter well may run some of the time above 50, and some of the time below 45.

But don't make the mistake of thinking the temperature the only thing. The purity or impurity of the air in the cellar has a whole lot to do in the case—more than is generally supposed. When a closed cellar stands for a time above 50 degrees, it is generally not the temperature that does harm, but the foul air. With ventilation enough so the bees shall be the same as out-doors, there will be no trouble.

Whether "perfect quiet" is an essential for cellar-wintering depends upon what is understood by the term. I call my bees very quiet, yet I don't think there is ever a time when you can not hear a low murmur, something like the wind gently soughing through the pines.

But what's the use of your getting "dizzy" over varying opinions. You seem to have a fair understanding with your bees, and so long as they winter all right for you, never mind about anything else.

2. When E. R. Root objects to my tent escape for the reason that the young bees are unable to get back to the hive, I suspect he is theorizing without having consulted the bees about the matter. At any rate, with many years' experience in a wholesale way there never has been any such trouble "in this locality." But even if there was, it would have no bearing on the case of dumping bees off by the pendulum plan, for they are dumped on the ground directly in front of the hive, and can easily crawl in. If the queen happens to be on the comb, she crawls in, too. Still, it is not very often that a comb is bumped on which the queen is likely to be.

3. I have an impression that it has been tried, but probably without finding it any great advantage.

4. For a 4¼ section I use a top starter 3¼ inches deep and a botttom-starter ⅝ deep. That would leave a space of ⅛ between the two starters; but the edges are melted away a little in fastening the foundation in the sections, making the space a little larger. If I should make any difference, it would be to have the space smaller instead of larger, as the bees more promptly fasten together the two starters if the space is small.

5. On the bottom. Looks more symmetrical, and stays in place a little better.

6. I don't see that cutting soon or late has anything to do with leaving a queenless colony, so long as you leave one cell intact. If you cut sooner than 5 or 6 days after the issuing of the prime swarms, other cells may be started. If you cut later than a week later, an afterswarm may get the start of you. But wouldn't you do better to let the bees destroy the cells? In most places they will do so if you proceed thus: When the prime swarm issues, set it in place of the old hive on the old stand, and set the old hive close beside it. A week later move the old hive to a new place 5 feet or more away. That's all; the bees will do the rest.

7. Yes, indeed.

8. If any reasonable amount of a wing was cut off, the bees could not have gone off with the queen. But they may have gone into another hive close by, especially if at that hive there was unusual commotion, as of swarming. Or, at the same time that they swarmed out another swarm may have issued in the same apiary, perhaps a little afterswarm, and the two may have united and sailed away. Even if no other colony were within a mile, a stray swarm from more than a mile away may have come along just as the bees in question deserted their hive, and the rest would be easy. And then—some other may be the right answer to the conundrum.

9. A colony may sometimes be so still that no sound will be heard when the ear is placed close to the entrance, but I don't think any colony in my cellar will usually be found so. Even the quietest colony seems to have spells of waking up, and turning over in bed, so to speak. Where 20 or more colonies are in the same cellar, if they act as my bees do, you don't need to put your ear to a hive to hear the hum. Go at any time and stand in the inside doorway in my cellar, and you must be hard of hearing if you can not hear the bees. Possibly I am more easily satisfied than I ought to be, but I am in the habit of counting such things normal, and I really enjoy hearing the drowsy hum.

10. All things considered, I prefer to use a plain wood separator, sliced or sawed, with no slots or scallops.

11. Theoretically, it ought to be better to have such holes; practically, I doubt if it would pay.

With regard to cleaning with lye, Miss Wil-

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son is more competent to reply than I, as she is the originator of the "lying" business; so I've turned that question over to her, to be answered in the Sisters' department.

Bees Flying in Iowa.

I packed 106 colonies of bees last fall. Bees are flying from 106 hives today.

Leon, Iowa, Feb. 28. EDWIN BEVINS.

A Real Winter Spell.

A real spell of winter struck us hard Feb. 18th and 19th. It was not cold, but a hard storm with a foot of snow. The roads are blocked with snow. The wind blew a gale. Bees flew well one day last week and seem in good condition. F. A. SNELL.

Milledgeville, Ill., Feb. 20.

Bees in a "Vinegary" Cellar.

I see a report is asked for on bees wintering in a cellar that has vinegar stored in it. (See page 55). I kept 12 colonies last winter in a cellar that had 10 barrels of vinegar with the bungs open, and one barrel was spilled all over the floor by having the hoops rust off. Yet the bees all wintered. A. J. MORSE.

Diamond, Pa., Feb. 17.

Bees Seemingly Doing Well.

My bees are doing fine, I think. I have not examined any of them yet. When we have a pretty warm day they are gathering some pollen from the soft-maple trees. I put 14 colonies into winter quarters, and they seem to be all right, and strong. I have one imported queen from central Italy. I want to rear a few queens from her. I have one golden and all the rest are good 3-banded Italians, and hustlers. CHAS. HENSON.

Springdale, Ark., Feb. 24.

Report for 1907.

My bees did fairly well in 1907. I had 25 colonies in the spring. Some of them were quite light. I fed them in April to start breeding, so as to have them ready for the early flow of nectar. I work for comb honey altogether. I got 1,200 pounds of white honey, and sold it at home for 15 cents a pound. I also got 15 good swarms. I have a total of 40 colonies, and put them into the cellar Nov. 20, in good condition. JOHN CLINE.

Darlington, Wis., Feb. 5.

Bees Under Snow.

Our bees are packed in winter-cases on the summer stands, at present surrounded with 2 or 3 feet of snow, and have been for nearly 4 weeks. One fine day last week the thermometer registered 50 degrees, and I commenced digging them out. Two colonies had a cleansing flight, but several thousand bees were lost in the snow. The next day it commenced snowing and drifting as badly as ever, and it is almost useless to do anything until the weather clears up. D. MEUSER.

Elmwood, Ont., Feb. 20.

Several Years' Experience.

I started in 1904 with 2 colonies which cost me $8. These were in movable-frame hives. The strongest colony cast 2 swarms, but did not yield any surplus honey. The 2 new swarms were put in box-hives, but later I transferred them to movable-frame hives. The other swarm produced about 2 supers of surplus honey. The next year (1905), I purchased 5 more colonies. I then had 9, which increased to 18. One of the young swarms had been hived a few days when another large swarm came and entered the same hive. This colony produced about 75 pounds of honey. I received about 150 pounds of honey from 2 colonies. During the winter of 1905, 9 colonies died. The next year (1906), I had 9 colonies. Two of these were very weak, so I put 3 of them together, making 7 strong colonies. I put a hive full of empty brood-combs on each colony. About the middle of June I took these hives off and put supers on in their place. After taking off the hives I had 4 hives full of sealed brood. I then took these 4 hives of brood and put 2 hives on one stand. After putting some old bees in these hives, I found that I had 2 strong colonies. I received 2 more colonies by natural swarming. I then had 11 colonies, and about 300 pounds of nice honey. During the winter of 1906, 5 colonies died.

In 1907 I had 6 colonies, 2 of which were weak. These were increased to 9, but I did not get any surplus honey. Late in the fall I fed 50 pounds of sugar. I then bought 100 pounds of sugar, which I made into candy, and fed it to 9 colonies. P. S. JOHNSON.

Lime Springs, Iowa, Feb. 8.

Honey in California.

As things appear to me, the honey crops of 1907 were by no means anything like short in the aggregate. If they had been, the market on comb honey, especially in this State, would be stronger than it is, in spite of the money market stringency. As a matter of fact, San Francisco, Oakland, Sacramento, and Stockton are flooded with comb honey of the better grades, and dark comb finds no buyers at even as low figures as 8 cents per comb. Trying to obtain that figure for my crop, I have the great bulk of it still on hand, and will have to "give in" if I want to move it at all. SEBASTIAN ISELIN.

Stockton, Calif., Feb. 17.

Winter Bee-Shed—Salt as Moth Remedy.

The year 1907 was almost a complete failure throughout central Missouri. White clover came in about the middle of June, and not much of it then.

I have been in the habit of wintering my bees on the summer stands, but after the last spring failure I planned a shed to protect them from the north and northwest winds. The shed is built of common fencing plank with double walls, having a 6-inch space between the walls to be filled with leaves or grass. It is built long enough to shelter 5 colonies. It may be so constructed that it can be taken apart in the summer and stored away until winter comes again. This is my first winter with the shed, and I am having good results so far.

Last summer I noticed that one of my colonies was greatly injured by those bothersome bee-moths. I got a handful of coarse salt and scattered it on the alighting board. The salt was quickly carried in by the bees. A few days later they were busy rolling the dead moth-larvæ out of the hive, and now this is one of my strongest colonies. Do not use table salt, as the coarse kind is better.

Slater, Mo., Feb. 28. R. C. HICKMAN.

Fair Years with Bees.

I have been in the bee-business 4 years. I bought my first swarm from my brother for $1.00, and hived it in a dry-goods box, and it is still alive and in the same box. I now have 31 colonies of bees. The spring of 1907 being so cold and damp, many bee-men in this vicinity lost many of their bees. I had only one colony of bees starve, and 2 died leaving honey. Over half of my bees did not swarm at all last summer. Some of them gathered almost 100 pounds of comb honey per colony. Others did not furnish any. In all, I averaged 25 sections. At this date my bees are all alive, and seem to have plenty of honey.

I winter my bees by placing them on a platform about a foot high, and have the hives one foot apart. Then I place straw all around them except in front of the hive, and cover them with boards, rubber roofing, or some other material to keep them dry. I had good success last winter, and so far this winter. I hope the next season will be better.

W. W. ETTLEMAN.

Sidney, Iowa, Feb. 21.

Vinegar in Bee-Cellar—Bumble-Bees.

On page 55 the question is asked whether bees wintered in a cellar where vinegar is kept would be injured by the strong odor arising from the vinegar. I have had 40 barrels of vinegar in my cellar with my 25 colonies of bees, and the bees came out all right in the spring, without losing a colony. And there is no ventilator in the cellar. All the air that they have is what passes through a cellar that is closed up for winter. The cellar is also very damp. I put my bees in the cellar every year and never have less than 5 barrels of vinegar in the cellar. Some of the bees are right beside the vinegar. If you keep the barrels of vinegar bunged up tight there will not much acid escape from the barrels.

The same person asked what became of the bumble-bee when cold weather comes on. He said that he never found any after the first cold spell. The workers and drones die off in the fall. Along in the last of July they hatch out 3 or 4 queens, and they are fertilized by the drones the same as our honey-queens are. All the difference is that the drones don't die. When it becomes cold the young queens seek their winter quarters in hollow trees or logs, and sleep there till warm weather in the spring wakes them up, and then they come forth and seek a place to start a nest. The queen will build 4 cells and lay an egg in each cell. Then she will hover them and nurse them until they hatch. She will gather honey enough to keep herself and the 4 bees until they are old enough to gather honey. Then the queen never leaves her nest again except for exercise. I have found bumble-bee queens in hollow logs when cutting them up for wood. M. D. TYLER.

Seville, Ohio.

Some Southern Honey-Plants.

We had the same unfavorable weather here that prevailed elsewhere during April and May, 1907, but by the middle of June the bees were able to do something, and the season as a whole was very good. My average, spring count, was 116 sections as against 104 in 1906. The fall flow from bitter-weed was unusually heavy, and the bees went into winter with hives heavier than I ever knew before.

The last wet spring prevented much good farming land being planted, and this grew up in bitter-weed, so that the acreage in this plant was much larger than usual, and the bees reaped the benefit. Although not palatable when first gathered, this honey loses much of the bitter taste after being kept a while.

I think cow-pea is the one of the very best honey-plants we have here in the South. The honey is of very fine quality. There is another plant which I noticed for the first time the past season. It grows in low, marshy places, and is commonly called "barber-root." I do not know whether that is the correct name or not. It blooms early, and the bees just swarmed over it. We have a great variety of honey-plants here, but none in great quantities, so our honey is a blending of many flavors. There is never what could be called a rush, but a steady flow from about the middle of June until frost.

I have not seen any sign of robbing since June 15, the bees getting plenty to keep them occupied. Sometimes, however, we are bothered with robbing late in the fall.

Tupelo, Miss., Feb. 4. J. D. ROWAN.

Bee-Keeping in Oklahoma.

Having been without bees for the past 6 or 7 years I have not been reading the bee-papers and keeping in touch with the bee-keeping fraternity, and so do not know what may have been written on bee-keeping in Oklahoma. To the average person who has taken up his residence in this State from the North and East, the first point that he considers when the question of bee-keeping is mentioned is the wind. While the winds that have always characterized this country still prevail to some extent, they are not nearly so prevalent nor so strong as before the planting of trees and the tilling of the soil began.

After about 12 years' experience in keeping bees in Southern Kansas and Oklahoma, I usually make the reply to such remarks that a bee can work successfully in any wind that a man can. While this may not be literally true it does not miss it very far. While the bees are no doubt greatly handicapped by a strong wind I find that they will work in a very strong breeze if the hives are so arranged that they can alight with their loads. Our prevailing winds here during the working season are from the south. My experience has taught me that the hives should face the north. The heavy-laden bee as she approaches the hive may then drop down in the lee of the hive and safely arrive with its load, while if the hive faces the south I have seen them beaten back from the entrance a dozen or more times before they secure a foothold.

The past season was very adverse for bees in this section of Oklahoma. The month of March was unusually warm, and the bees started breeding as much as they usually do in April or May. In April we had the weather we should have had in March—so cold that the bees scarcely showed themselves the entire

American Bee Journal

month. They commenced to drag out dead ones during the warmest part of the day toward the last of the month, till the ground was covered and the entrance was clogged. As they had plenty of honey in March I could not account for the dead bees, and began to think they had the paralysis. The weather remained so cool that I did not attempt to examine them till the last of the month, when I found the trouble was starvation, as they did not have a drop of honey, and I do not suppose would have lasted 24 hours longer. One colony was so near gone that they did not go down to the syrup I gave them till they were sprinkled with the syrup from my fingers, which they licked from one another. In 5 minutes the air was full of bees, and you may be sure that I did not let them go hungry again.

N. FRED GARDINER.

Geary, Okla., Jan. 6.

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Marion Co., Ill., July 13.

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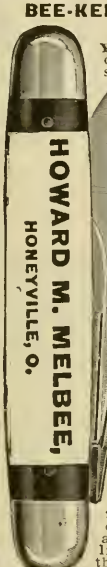

Your name and address put on one side of the handle as shown in cut, and on the other side pictures of a queen-bee, a worker, and a drone. The handle is celluloid and transparent, through which is seen your name. If you lose this knife it can be returned to you, or serves to identify you if you happen to be injured fatally, or are unconscious. Cut is exact size. Be sure to write exact name and address. Knife delivered in two weeks. Price of knife alone, postpaid, $1.25. With year's subscription, $1.50. **Free** for 5 new 50c subscriptions.

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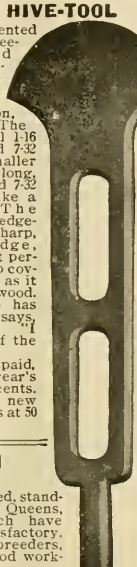

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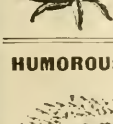

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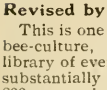

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For heifers with first calf Cows' Relief works in a most pleasing, prompt and successful manner. It relieves the soreness and swelling in the bag and is worth its weight in gold to every dairyman. It keeps the teats soft and flexible, and renders the animal quiet and docile.

H. C. Rice, Farmington, Conn., says: "Please send me two boxes of Cows' Relief. Enclosed find check for same. Please send at once. I wouldn't be without it in my stable."

L. F. Cuthbert, Hammond, N. Y., says: "I have used your Cows' Relief and find it a very valuable remedy for Caked Bag."

We have scores of testimonials like the above. Ask your dealer for Cows' Relief and insist on having the genuine. If he cannot supply you write direct to us, enclosing $1 for large package prepaid, (enough for four or five ordinary cases). Your money back if you are not satisfied. Positive guarantee on every package. Or send your name and one neighbor's who keeps cows, stating how many you each have, and we will send our book concerning "Cow Troubles," also Goldine Cow Watch Charm FREE while they last.

OUR HUSBANDS MFG. CO.,
716 Chapel St., Lyndon, Vt.

Mention Bee Journal when writing.

BARNES' Foot-Power Machinery

Read what J. I. PARENT, of Charlton, N. Y., says: "We cut with one of your Combined Machines, last winter. 50 chaff hives with 7-in. cap, 100 honey-racks, 500 brood-frames, 2,000 honey-boxes, and a great deal of other work. This winter we have double the amount of bee-hives, etc., to make, and we expect to do it with this Saw. It will do all you say it will." Catalog and price-list free.

Address, **W. F. & JOHN BARNES,**
995 Ruby St., Rockford, Ill.

Engravings For Sale

We are accumulating quite a stock of engravings that have been used in the American Bee Journal. No doubt many of them could be used again by bee-keepers in their local newspapers, on their stationery, or in other ways. Also, if we can sell some of them it would help us to pay for others that we are constantly having made and using in our columns. If there is any of our engravings that any one would like to have, just let us know and we will quote a very low price, postpaid. Address,

GEORGE W. YORK & CO.
CHICAGO, ILL.

American Bee Journal

Now Ready

The 97th edition of our catalog is now ready. If you have not received a copy and are ready to place an order for any supplies write for a copy. Our mailing list has over 400,000 names, so time is required to get the entire edition mailed. We explain this so any one may understand why a catalog may not reach him early.

The A B C of Bee Culture

When we announced the completion of the new edition late in 1907 there was a good deal of satisfaction to notice the big bunch of orders on hand, although we did regret the unavoidable delay in getting the books to some customers who had waited patiently for months. Over two thousand copies of this edition have already been sent out. We believe all urgent orders have been filled. We felt that the change of price to $1.50 postpaid might cause a little slackening in the demand. Not so, however, for in all our experience the orders never came faster.

We have also of the English edition a half leather at $2.00 and full leather at $2.50, postpaid.

German Edition, A B C der Bienenzucht in paper covers, $2.00. Cloth-bound at $2.50, postpaid, to any country.

French Edition, A B C de L'Apiculture, cloth-bound, at $2.00, postpaid, to any country.

Gleanings in Bee Culture

If you haven't seen a late copy of Gleanings you can't tell from any brief description how really magnificent it is. There are many valuable departments, and our subscribers just at this season of the year are telling how much they appreciate the paper.

Each issue is very fully illustrated. The covers are done by the finest engravers in Chicago, and our writers are the best in the land. Besides dozens of writers of prominence whose names we can't even mention for lack of space, we have such men as Dr. E. F. Phillips, U. S. Dept. of Agriculture; Dr. Edward F. Bigelow, Associate Editor St. Nicholas; F. Dundas Todd, former Editor Photo-Beacon; Allen Latham, Connecticut, etc.

A trial of six months (12 numbers) costs 25c. If in addition to your own subscription you secure others for six months keep 10c on each one for your trouble. A liberal cash commission to those who do canvassing for us.

Gasoline Engines and Power Honey Extractors

For large apiaries, or where the honey comes with a rush and labor is scarce, you should investigate our power machines. A circular of these will be sent on request.

THE A. I. ROOT COMPANY, MEDINA, OHIO

STRAWBERRIES WORTH $20

GROWN FROM $1 WORTH

of plants. That's good margin. Besides, the "W. H. Taft" is an easy, quick seller. No strawberry finds a readier market because it's attractive; a red, round berry; delicious odor, juicy, rich-flavored. It is a strong, prolific grower, producing berries firm and solid, making good shippers. Limited stock. 25 plants, 50c; 60 plants, $1.00, sent postpaid. Catalog of Seeds, Small Fruits, Roses, etc., sent free.

BINGHAMTON SEED CO. 300 Court St., Binghamton, N. Y.

6 HARDY BLIZZARD BELT EVERGREENS FREE

To prove that our EVERGREENS are HEALTHY, HARDY and Vigorous, we offer to send SIX fine two-year-old trees, entirely FREE OF CHARGE, to every property owner who will answer this advertisement. Mailing expense 5 cts., which send or not, as you please. A postal will bring them and our catalogue which contains many COLORED PLATES of our BLIZZARD BELT FRUITS; SPECIAL BARGAINS and a mine of valuable information for fruit growers. We want to become acquainted with you, and it will pay you to get into touch with our HARDY "BLIZZARD BELT" stock and our liberal manner of doing business. THIRTY-EIGHT years' experience in growing HARDY "BLIZZARD BELT" trees. Write to-day.

THE GARDNER NURSERY COMPANY,
Drawer 45. Osage, Iowa.

1884 1908

Root's Goods always in stock

FOR YOU

Twenty-four successful years manufacturing bee-supplies and rearing Italian Bees and Queens. Root's Goods in Stock. Write for Catalog and Prices.

J. M. Jenkins, Wetumpka, Alabama

Make Your Backyard Pay

$20 Return from 25c

One large packet of each of the following named seeds will plant space 30x50 feet and with proper cultivation will produce $20 worth of vegetables. We mail these 16 large packets for 25 cents: Beet, Bean Cabbage, Carrot, Celery, Chard, Cucumber, Onion, Parsnip, Parsley, Peas, Pepper, Radish, Tomato, Turnip, Sweet Corn; all of choicest varieties and grown from selected stock.

Or for ONE DIME we will mail Beet, Cabbage, Cucumber, Lettuce, Onion, Parsnip, Parsley, Radish, Tomato, Turnip; seeds enough to plant space 20x30 feet.

Prepare for spring by sending today for one of the above assortments and our 1908 Catalog and Garden Guide offering $45.00 in prizes.

BINGHAMTON SEED CO.,
300 Court St., Binghamton, N. Y.

American Bee Journal

Fall Supplies

—FOR—

Bee-Keepers

Everything you want. All made by us in our own factories. **At Lowest Prices.**

THE AMERICAN BEE-KEEPER, a monthly at 50c a year. Published 17 years.

Sample copy and illustrated catalog and price-list **FREE.** Address,

THE W. T. FALCONER MFG. CO.,

Dept. B. JAMESTOWN, N. Y.

HONEY

We have some fine, thick white extracted honey, 2 cans to a case, 124 lbs. at 9 cts. a lb., 5 cases 5¾ cts. lb., 10 cases 8½ cts. lb. Sample 10 cts.

HONEY-JARS

No. 25 jar $5.50 gross, 5 gross $5.25 gross. 1 lb square jars $5.00 gross. Catalog of supplies free

I. J. STRINGHAM,
105 Park Pl., N. Y. City

APIARIES, Glen Cove, L. I.

Mention Bee Journal when writing.

Headquarters for Bee-Supplies

ROOT'S GOODS

At Root's Factory Prices

LARGE DISCOUNTS OFFERED ON EARLY ORDERS. Have a large stock on hand, and can supply promptly. Freight Rates from CINCINNATI are the LOWEST, ESPECIALLY FOR THE SOUTH

As almost all freight now goes through Cincinnati. You will save money buying from me. Catalog mailed free. Send for same.

WILL BUY OR SELL YOU

HONEY

IF YOU HAVE ANY TO SELL

mail sample and state lowest price expected delivered Cincinnati. If you want to buy, state quality and quantity and I will cheerfully quote you price.

Beeswax Wanted

Will pay, at all times, highest market price on receipt of goods.

C. H. W. WEBER

CINCINNATI ...OHIO...

Office and Salesrooms, 2146-48 Central Ave. Warehouses, Freeman and Central Aves.

Honey and Beeswax

CHICAGO, Feb. 29.—The demand for honey is not as large as is usual at this season of the year. Dealers say they have little call for it, and they buy only what they have a probable sale for within a few days. Prices range from the best grades of comb honey, such as fancy, at 16 to 17c; off grades from 1 to 5c lower. There is some call for buckwheat comb honey, of which there is none on this market. Extracted ranges in price from 8 to 9c for the white grades, according to what they are and condition. Amber grades sell from 6 to 7c. The trade is not active, and stocks are largely of western crop. Beeswax, 28 to 30c.

R. A. BURNETT & Co.

CINCINNATI, Feb. 29.—There has been very little demand for honey the past month. We do not look for a good trade until business in general revives, and things all around don a more cheerful air. We quote amber extracted honey at from 6 to 7 1-2c, according to the quality and quantity purchased. Finer grades of extracted honey at 8 to 10c. Comb honey is moving very slowly; there is simply no demand for it. We are asking from 16 to 18c, according to the quality and quantity. Good to choice yellow beeswax 30c cash, or 32c in trade.

THE FRED W. MUTH CO.

CINCINNATI, Feb. 29.—The market on comb honey is very dull—there is no demand. We quote white clover at 16c. Extracted, amber, fair demand at 6 and 6¼c. Water-white sage, brisk at 9 1-2 and 10c. Beeswax is slow at $33 per 100 lbs.

C. H. W. WEBER.

LOS ANGELES, Feb. 20.—Water white honey, extracted, 7½c per pound; white honey, 7 cents; light amber, 5½ to 6½c. Comb honey, white, 16c; light amber, 13 to 15c. Beeswax, 25 to 28c.

H. J. MERCER.

KANSAS CITY, MO., March 2.—The demand for both comb and extracted is only fair; the receipts more liberal. We quote: Fancy white comb, 24 sections, $3.25 per case; No. 1, $3.10; No. 2 and amber, $2.75. Extracted, white, 8 to 8½c. Beeswax, 25c.

C. C. CLEMONS & Co.

DENVER, March 3.—The demand for comb honey is lighter than usual at this time of year, while the trade in extracted is fairly good. We quote: No. 1 white comb honey, per case of 24 sections, $3.25; No. 1 light amber, $3.10; No. 2, $2.75 to $2.90. No. 1 white extracted, 9 to 10c; light amber, 8 to 9c; strained, 6¾ to 7½c. Clean yellow beeswax, 25c delivered here.

THE COLO. HONEY-PRODUCERS' ASS'N.

TOLEDO, Feb. 29.—The market on comb honey remains the same as our last quotations, and the demand has not increased but still remains the same, owing to the number of people out of employment. We are getting for fancy white from 17 to 18c in a retail way by the case, with very little demand for lower grades, and no demand whatever for extracted honey. Beeswax, 28 and 30c.

GRIGGS BROS. & NICHOLS Co.

INDIANAPOLIS, Feb. 29.—Demand for best grade of extracted honey is good, while the demand for comb honey is not brisk. Bottled honey in retail groceries is selling slowly, for two reasons—dull times, and also from the fact that some bottlers have been putting out a very inferior grade of honey. Jobbers are offering the following prices, delivered here: No. 1 and fancy comb, 16 to 17c, net weight; extracted white clover, 9 to 10c; amber honey in barrels, 6 to 6 1-2c. Beeswax 28c cash, or 30c in exchange for merchandise.

WALTER S. POUDER.

SAN FRANCISCO, March 4.—Stocks of honey on the Coast are light, and water-white and white honey are practically not quotable in this market. These two grades would be obtained only in the Southern California districts, and the market is perfectly bare of these grades. Light amber honey is scarce in Southern California districts, and a limited quantity could be quoted on the basis of 5¼c Coast, freight rate $1.00. There are several cars of light amber alfalfa honey in the San Joaquin Valley that would be quotable at from 5 to 5¼c, also with a freight rate of $1.00. Beeswax is also scarce and is quoted from 28 to 29c, f.o.b., common California point. The quantity of beeswax left on the coast is very nominal indeed

GUGGENHIME & Co.

PHILADELPHIA, Feb. 28.—Since the holidays honey is moving very slowly, both comb and extracted, with very few arrivals from out of town. Comb honey has declined in price, while extracted honey keeps up fairly well with demand about equal to the supply. We quote: Fancy white comb honey, 16c; No. 1, 15c; amber and off grades, 12 to 13c. Extracted, fancy white in 60-lb. cans, in a small way, 9 to 9 1-2c; amber in cans or barrels, according to grade and quality, selling from 7c up. Beeswax, 28c. We are producers of honey and do not handle on commission.

WM. A. SELSER.

NEW YORK, Feb. 29.—Comb Honey—There is very little demand, and that only for fancy grades. While the receipts are not large it is evident that there is still some comb honey left back, as we are receiving straggling lots right along. If this honey had been shipped and sent to market last fall it would have found ready sale at a much better price than can be realized now. Off grades and dark are almost neglected and hard to dispose of. We quote: Fancy white, 15c; No. 1, 13 to 14c; No. 2, 12c; dark, 10 to 11c, according to style of package and quality. Extracted Honey—The market has been quite dull for the past 2 months, and while there is a fair demand, stocks are quite heavy on account of continuous arrivals. The market as a whole is weak, and prices on the decline. White, 8 to 9c; light amber, 7 to 8c; amber, 6 to 7c; Southern and West Indies, in barrels, at 60 to 65c per gallon. Beeswax, quiet at 28 to 30c.

HILDRETH & SEGELKEN.

HONEY AND BEESWAX

When consigning, buying, or selling, consult

R. A. BURNETT & CO.

199 South Water St. Chicago, Ill

Western Bee-Keepers We Will Show You how to save money. Send for our new catalog of the best Bee-ware made.

THE COLORADO HONEY-PRODUCERS' ASS'N, Denver, Colo.

MR. BEE-KEEPER

Was 1907 a POOR YEAR for you?
It was a GOOD YEAR for users of

Dadant's Foundation

One dealer used - - -	14,000 pounds	Another dealer used - -	4,500 pounds
Another dealer used - -	7,250 "	Another dealer used - -	4,500 "
Another dealer used - -	6,000 "	Another dealer used - -	4,500 "
Another dealer used - -	3,000 pounds		

Thousands of pounds sold to the bee-keeper direct or worked up for him out of his beeswax.
The *dealer* likes *Dadant's Foundation* because the bee-keeper likes it.
The bee-keeper likes it because his *bees* like it.
The *bees* like it because it is exactly like their own comb—so *pure* and *sweet* and *clean.*
Dadant's Foundation is the Standard because it is the *best.*
Wax worked into Foundation. Send for our Supply Catalog.

DADANT & SONS, Hamilton, Illinois

PATTEN'S TESTED TREES

Seven splendid new varieties hardy Northern grown apples. Specially adapted to the Northwest. Winners of Wilder Medal, highest award in U. S. Rapid growers, big yielders, good keepers and shippers. Money makers for fruit growers. Also,

NORTHERN GROWN

shade and ornamental trees for group, specimen, or windbreak planting. Especially for locations where only hardy stock will thrive. For 5c for postage and packing, we will send beautiful Hybrid Perpetual Rose and illustrated catalog with full description and prices free. Charles City Nursery & Orchard Co., Box 40, Charles City, Ia.

Mention Bee Journal when writing.

WHERE TO BUY

The poultry-raiser, the fancier and the farmer will appreciate our big store. It will save shopping around—save freight charges, and be handier in every way. We can fill all orders promptly with the best goods on the market at money-saving prices. Get our catalogs before you buy. Write today.

United POULTRY SUPPLIES

UNITED INCUBATOR & POULTRY SUPPLY MFG. CO.
Dept. 27, 26-28 Vesey St., New York City.

EGG MAKING

is a hen's natural work. Cut bone is the raw material she needs to make her lay an egg a day. A CROWN BONE CUTTER will prepare the food from scrap bones quickly, easily. Write for catalog—tells about the Crown. Wilson Bros., Box 618, Easton, Pa.

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CAPONS PAY

Capons are cheaper and easier raised, bring double price on the market. Caponizing is easy, and soon learned. Set prepaid with "easy to use" directions, $2.50. Capon book free, tells how. Write for it today.

G P Pilling & Son Co., Arch St., Philadelphia, Pa.

Mention Bee Journal when writing.

BEE KEEPING ON THE FARM

Double Your Colonies

Honey is high—short crop last year.

The shortage of the honey crop for 1907 in the United States warrants bee-keepers to increase their colonies. About a half crop was produced, and in California, where the cheap honey comes from, only a quarter of the average crop was produced.

Get Ready Now for More Honey

Let us send you our catalog. We are manufacturers, and sell only our own make of bee-supplies. Minneapolis is the largest lumber distributing point; the Mississippi River furnishes us power, and our organization and labor conditions are the best for economical production. Send us an estimate of your requirements and let us give you prices. We have a large stock of standard bee-supplies on hand—

Dovetailed Hives, Sections, Section-Holders, Separators, Brood-Frames, Comb Foundation, Smokers, Extractors, Shipping-Cases, etc.

MINNESOTA BEE SUPPLY CO., 52 Nicollet Island, Minneapolis, Minn.

48th Year
No. 4

April, 1908

50c. a Year
5c. a Copy

AMERICAN BEE JOURNAL

No. 1.—Part of D. J. Blocher's Caucasian Bee-Yard, in Stephenson County, Illinois.

No. 2.—One of Mr. Blocher's Italian Bee-Yards.—See Page, 105.

American Bee Journal

THE AMERICAN BEE JOURNAL

PUBLISHED MONTHLY BY

GEORGE W. YORK & COMPANY

118 W. Jackson Blvd., Chicago, Ill.

IMPORTANT NOTICE.

THE SUBSCRIPTION PRICE of this Journal is 50 cents a year, in the United States of America, (except Chicago, where it is 75 cents), and Mexico; in Canada 60 cents; and in all other countries in the Postal Union, 25 cents a year extra for postage. Sample copy free.

THE WRAPPER-LABEL DATE indicates the end of the month to which your subscription is paid. For instance, "dec08" on your label shows that it is paid to the end of December, 1908.)

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Nothing less than 4 lines accepted.

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6 " 12c " " — 12 " (1 yr.) 10c a line

Reading Notices, 25 cents, count line.

Goes to press the 6th of each month.

National Bee-Keepers' Association

Objects of the Association.

1st.—To promote the interests of its members.

2d.—To protect and defend its members in their lawful rights.

3d.—To enforce laws against the adulteration of honey.

Annual Membership Dues, $1.00.

General Manager and Treasurer—
N. E. FRANCE, Platteville, Wis.

☞ If more convenient, Dues may be sent to the publishers of the American Bee Journal.

"Songs of Beedom"

This is a pamphlet, 6x9 inches, containing 10 songs (words and music) written specially for bee-keepers, by Hon. Eugene Secor, Dr. C. C. Miller, and others. They are arranged for either organ or piano. The list includes the following: "Bee-Keepers' Reunion Song;" "The Bee-Keeper's Lullaby;" "The Hum of the Bees in the Apple-Bloom;" "The Humming of the Bees;" "Buckwheat Cakes and Honey;" "Dot Happy Bee-Man;" "Bee-Keepers' Convention Song;" "The Busy, Buzzing Bees:" "Spring-Time Joys;" and "Convention Song." The pamphlet is mailed for 25 cents, or sent with the American Bee Journal one year—both for only 60 cents. Send all orders to the American Bee Journal, 118 W. Jackson, Chicago, Ill.

Western Bee-Keepers We Will Show You how to save money. Send for our new catalog of the best Bee-ware made.

THE COLORADO HONEY-PRODUCERS' ASS'N, Denver, Colo.

Tennessee-Bred Queens

All from extra-select mothers, Davis' Best, and the best money can buy

3-band and Golden Italians bred 3¼ miles apart, Carniolans 5, Caucasians 7 miles away

THREE-BAND AND GOLDEN ITALIANS								
	November 1st to July 1st			July 1st to Nov. 1st			BREEDERS	
	1	6	12	1	6	12		
Untested	$1.00	$5.00	$ 9.00	$ .75	$ 4.00	$ 7.50	Select Golden	4.00
Select Untested	1.25	6.50	12.00	1.00	5.00	9.00	Select 3-band	4.00
Tested	1.75	9.00	17.00	1.50	8.00	15.00	Select Carniolan	5.00
Select Tested	2.50	13.50	25.00	2.00	10.00	18.00	Select Caucasian	5.00

Untested Carniolan and Caucasian, $1.25 each; 6 for $7.00; 12 for $12.00.

Nuclei, without queens: 1-frame, $2.50; 2-frame $3.50; 3-frame $4.50. 1 Full Colony, 8-frame $9.00.
Select the queen wanted and add to the above prices.

NOTE

I have transferred to my son, Benj. G. Davis, my straight 5-band and Golden department, and in order to receive the promptest attention, all correspondence for these should be sent direct to him. He practically grew up in my queen yards, rears queens by my methods, has had charge of this department for years, and understands his business. No bee-disease.

JOHN M. DAVIS, Spring Hill, TENNESSEE, U. S. A.

A Standard-Bred Italian Queen-Bee

For a number of years we have been sending out to bee-keepers exceptionally fine Untested Italian Queens, purely mated, and all right in every respect. Here is what a few of those who received our Queens have to say about them:

What They Say of Our Queens

GEORGE W. YORK & CO.:—The two queens received of you some time ago are fine. They are good breeders, and the workers are showing up fine. I introduced them among black bees, and the bees are nearly yellow now, and are doing good work. A. W. SWAN.
Nemaha, Co., Kan., July 15, 1905.

✣✣✣

GEORGE W. YORK & CO.:—After importing queens for 15 years you have sent me the best. She keeps 9½ Langstroth frames fully occupied to date, and, although I kept the hive well contracted, to force them to swarm, they have never built a queen-cell, and will put up 100 pounds of honey if the flow lasts this week. CHAS. MITCHELL.
Ontario, Canada, July 22, 1905.

✣✣✣

GEORGE W. YORK & CO.:—The queen I bought of you has proven a good one, and has given me some of my best colonies. N. P. OGLESBY.
Washington Co., Va., July 22, 1905.

✣✣✣

GEORGE W. YORK & CO.:—The queen I received of you a few days ago came through O.K., and I want to say that she is a beauty. I immediately introduced her into a colony which had been queenless for 20 days. She was accepted by them, and has gone to work nicely. I am highly pleased with her and your promptness in filling my order. My father, who is an old bee-keeper, pronounced her very fine. You will hear from me again when I am in need of something in the bee-line. E. E. MCCOLM.
Marion Co., Ill., July 13.

We usually begin mailing Queens in May, and continue thereafter, on the plan of "first come first served." The price of one of our Untested Queens alone is 75 cents, or with the monthly American Bee Journal one year—both for $1. Three Queens (without Journal) would be $2.10, or 6 for $4.00. Full instructions for introducing are sent with each Queen, being printed on the underside of the address-card on the mailing-cage. You cannot do better than to get one or more of our fine Standard-Bred Queens.

Address, GEORGE W. YORK & CO., 118 W. Jackson, Chicago, Ill.

Getting New Subscribers

This should be a good time to get new subscribers for the American Bee Journal. On another page we offer a number of premiums for such work. We hope that as many of our present readers as possible will help us to increase our subscription list. The more intelligent bee-keepers are, the better it will be for all interested in the business. And much of that intelligence is secured by reading. We will be pleased to send free sample copies on request. Shall we not be favored with a large increase of new subscriptions during the next 2 or 3 months?

American Bee Journal

LOOK OUT FOR LEAKS

A leaky roof on your hen-house will cost you a good many dollars in loss. You needn't expect any profits if the water drips or pours all over your poultry every time it rains or snows.

"STAR" FELT ROOFING

makes a water-tight, "just right" roof for the hen-house. Will keep your poultry dry and warm so they can work and save you all the loss the leaks cause. It's cheaper, looks better, and is better than shingles or metal, and lasts longer; made in 1, 2 and 3 ply, especially for poultry houses and coops. You lay it yourself. Write for prices and free samples today.

UNITED INCUBATOR & POULTRY SUPPLY MFG. CO.,
Dept. 27, 26-28 Vesey Street New York City, N. Y.

"If Goods are Wanted Quick Send to Pouder."

ESTABLISHED 1889

Bee-Supplies. Root's Goods in Indiana.

Standard Hives with latest improvements, Danzenbaker Hives, Honey-Boxes, Comb Foundation and everything that is used in the bee-yard. Large illustrated catalog mailed free. Finest White Clover Extracted Honey for sale in any quantity desired.

WALTER S. POUDER, 513-515 Massachusetts Ave., Indianapolis, Ind.

Dittmer's Comb Foundation

Is the Best. Not because we say so, but because the Bees prefer it to other makes.

Dittmer's Process is Dittmer's

It has built its Reputation and established its Merits, on its own Foundation and its own Name.

We make a Specialty of Working Wax into Foundation for Cash.

Write for free catalog and prices on full Line of Supplies.

GUS DITTMER CO., Augusta, Wis.

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Lewis Bee-Supplies Shipped Promptly

A small stock left of slightly damaged goods, at reduced price. Send for fire sale list, also full catalog of **new goods.** Quote us prices on Honey and Beeswax. Honey in 60-lb. cans for sale. **Second-Hand Cans** (60-lb.) 2 in a box, at 50c per box, or in lots of 10 boxes, at 40c.

ARND HONEY & BEE-SUPPLY CO. (Not Inc.) **H. M. Arnd, Proprietor**
Successors to YORK HONEY & BEE-SUPPLY CO. **191-193 E. Superior St., Chicago, Ill.**
Long Distance Telephone, North 1559

Choice White Wyandottes

15 eggs 75c; 30, $1.25. The **Hoosier Potato**—none better, few as good—by mail, 1-lb. 30c.

2-3t J. F. MICHAEL, Rt. 1, Winchester, Ind.

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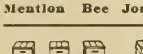

FOR SALE—It will pay to get our special proposition.
A. G. WOODMAN CO., Grand Rapids, Mich.

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BIG STOCK of The A. I. Root Co.'s and Marshfield Co.'s BEE - SUPPLIES

at their manufacturers' prices. For cash sent in April, deduct 5 percent; for cash sent in May, deduct 2 per cent. Take their 1908 price-lists, if you have them; if not, send for them.

3Atf **S. D. BUELL, Union City, Mich.**

ITALIAN QUEENS—from direct imported mothers—red clover strain, $1.00. Circular.

3A6t A. W. YATES, 3 Chapman St., Hartford, Conn.

QUEENS

Improved superior Italians are what QUIRIN-THE-QUEEN-BREEDER furnishes. Stock is Northern bred and hardy. All wintered on summer stands and not a colony lost the past winter. Over 20 years a queen-breeder.

Prices before July 1	1	6	12
Select queens	$1 00	$5 00	$9 00
Tested queens	1 50	8 00	15 00
Select tested queens	2 00	10 00	18 00
Breeders	4 00		
Golden five-band breeders	6 00		
Two-comb nuclei, no queen	2 50	14 00	25 00
Three-comb nuclei	3 50	20 00	35 00
Full colonies on eight frames	6 00	30 00	

Add price of whatever grade queen is wanted with nuclei or colony. Bees ready about May 10th, Danzy or L. frame. Safe arrival guaranteed. Free circular and testimonials.

Quirin-the-Queen-Breeder, Bellevue, O.

Mention Bee Journal when writing.

Italian and Caucasian BEES, QUEENS and NUCLEI

Choice home-bred and Imported stock. All Queens reared in full colonies.

Prices for May

One Untested Queen.....$1.10
One Tested Queen.....1.50
One Select Tested Queen..1.65
One Breeder Queen.....2.75
One C'b Nucleus (no queen) 1.15
One Unt'd Caucasian Queen 1.25
One Tested Caucas'n Queen 1.75

Safe arrival guaranteed. For prices on larger quantities and description of each grade of queens, send for price-list.

Tested, Select and Breeders **ready now.**

J. L. Strong, 4tf **200 East Logan St. Clarinda, Iowa.**

Not Cheap Queens, But Queens Cheap.

Bred from the very best selected strain. Guaranteed to work any flower.

Italian Bees Work or Money Refunded

Untested Italian queens in lots as follows: One, 75 cents; Six, $4.20; Twelve, $7.80.
Tested Italian queens in lots as follows: One, $1.00; Six, $5.70; Twelve, $10.80.
Nuclei with untested Italian queen: One fr., $1.75; Two fr., $2.25; Full Col. $4.75.
Nuclei with tested Italian queen: One fr., $2.00; Two fr., $2.50; Full Col. $5.00.

The above queens are all reared from the very best selected red clover Italian queens. Orders filled by return mail. **Dealer in Bee-Keepers' Supplies.**

4Atf **W. J. Littlefield,** **R. F. D. No. 3 Little Rock, Ark.**

Mention Bee Journal when writing.

ITALIAN QUEENS

By Return Mail

Warranted $1.00 each; 6 for $5.00.

Tested, $1.00. Circular Free.

D. J. Blocher, **Pearl City, Illinois.**

Honey Cases For Sale

Two cans to the case. Both cans and cases in A-1 condition. Price, 30c per case in lots of 100 cases or more. Write for prices.

Michigan White Clover Honey Co.

4A4t **29 WOODBRIDGE ST., WEST, DETROIT, MICH.**

Mention Bee Journal when writing.

American Bee Journal

3-Frame Nuclei of Bees FOR SALE

We are now booking orders for Italian Bees with fine Tested, Italian Queens—3-frame nuclei at $3.50 each, or $3.25 each in lots of 5; Full Colonies in 8-frame hives—$7 each, or $6 in lots of 5. The Nuclei are for delivery about May 10, and full colonies May 1, or perhaps a little earlier. All will be shipped from point 100 miles west of Chicago, and the prices quoted are f. o. b. express car there. No disease, and satisfaction guaranteed. First come, first served. Address,

GEORGE W. YORK & CO., 118 W. Jackson, Chicago

PRIZE TAKERS

Pharr's Goldens took first prize at 3 exhibits in Texas in 1907. We will furnish Golden, Carniolan, Caucasian, and 3-band Italian Queens, untested, $1.00 till May 15, then 75 cents; Tested, $1.25 till May 15, then $1.00; For large quantities, write. Our 3-band Breeders from W. J. Victor and Grant Anderson strains; other races from the best obtainable. "Prompt service and satisfaction," is our motto.

ADDRESS,

NEW CENTURY QUEEN-REARING CO., or JOHN W. PHARR,

3Atf Berclair, Texas

Moore's Strain, and Golden Italian Queens

Select Untested Queens, $1; 6 for $5; 12 for $9. Carniolan, Banat, Caucasian Queens; Select, $1.25; 6 for $6; 12 for $10. Tested, any race, $1.50; 6 for $8. Choice Breeders, $3.50. Circular free.

3a4t W. H. RAILS, Orange, Calif.

HONEY Bees and Queens FOR SALE

50 cases Amber and Buckwheat comb honey in case lots at $2.50 per case of 24 Sections. Dark amber extracted at 7½c

Our Italian Bees and Queens are a hardy, improved, superior strain, Northern-bred; are wintered on summer stands. Over 20 years a Queen Breeder. 500 colonies employed. Send for Circular and Testimonials.

QUIRIN-The-Queen-Breeder

3Atf BELLEVUE, OHIO

FOR SALE

—Fancy White Comb Honey; also Clover, Basswood, Alfalfa, and Amber Extracted Honey in 60-pound cans.

ROBT. A. HOLEKAMP & SON,

3A3t 4263 Virgina Ave., St. Louis, Mo.

HONEY California sage, pure and well ripened. Place your order now. Light amber, 60 lb. can, 6c; case, 120 lbs, 5 1-2c F. O. B. Sample 10c.

R. M. SPENCER, Nordhoff, Calif.

ITALIAN BEES AND QUEENS

Best of Stock, free from disease

For May delivery: Untested, 75c each; 2-frame Nucleus, with Queen, $2.50 each. Chesley Presswood, Reliance, Tenn. 3atf

A FULL LINE of Bee-Keepers' Supplies. My patent Section Machine at half-price. A new queen-nursery, and queen-rearing outfit. Queens from imported Italians, Caucasians, Carniolans; and Adel queens. Send for Catalog and price-list. CHAS. MONDENG, 160 Newton Ave. N., Minneapolis, Minn. 3A6t

BEE-SUPPLIES Send list of wants for low prices and best goods, to

4A2t E. T. ABBOTT, St. Joseph, Mo.

"Forty Years Among the Bees"

By Dr. C. C. Miller

One of the Best-Known Honey-Producers in all the World

THIS book of over 340 pages tells just how Dr. Miller manages his apiaries to produce the most honey, which, in turn, brings the most money. Dr. Miller has been "at it" some 45 years, and so is competent to tell others the best way to be successful with bees. In 1903 his crop of comb honey was over 18,000 pounds, and he is not located in the best honey-producing part of the United States, either—Northwestern Illinois.

The book is bound in substantial cloth, gold-lettered, and is sent postpaid for only $1.00; or with the American Bee Journal one year for $1.25. (Or send us 4 new subscriptions to the Bee Journal—with $2.00—and we will mail you the book free as a premium.) Every bee-keeper ought to have both the book and the Bee Journal, if not already possessors of them.

As Dr. Miller gets a royalty on his book—so many cents on each copy sold—every bee-keeper who buys it is thus helping a little to repay him for his effort to lead others to success through his writings on bee-culture.

As we have a good stock of these books on hand, **we can fill all orders by return mail.** This is the time of year to read up on bee-keeping. Better send us your order at once for Dr. Miller's book, and study it carefully so as to make the most of the bee-season. Address,

GEORGE W. YORK & CO., 118 W. JACKSON BLVD. CHICAGO, ILL.

TEXAS QUEENS

The famous honey producers are well in the lead. I am booking orders now for April, May and June deliveries—**Italians, Carniolans, Goldens and Banat Queens.**

Prices either race: Untested, 75c each; $8.00 doz. Choice Tested, $1.25 each; $12.00 doz. Choice Breeders, $3.00 each. Circular for your address. 2-1f

GRANT ANDERSON, Sabinal, Texas

Alsike Clover Seed

Medium Red, Large Red, and Timothy Seed, for sale. Write for samples and prices. : : :

Catalog Apiarian Supplies free.

2-3t F. A. SNELL, Milledgeville, CARROLL CO., ILL.

IF YOU WANT THE BEE-BOOK

That covers the whole Apicultural Field more completely than any other published, send $1.20 to

Prof. A. J. Cook, Claremont, Cal.,

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"BEE-KEEPER'S GUIDE"

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Our specialty is making Sections. All other goods up-to-date.

AUG. LOTZ & SON, Cadott, Wis.

10A34t Please mention the Bee Journal.

SOLID GOLDEN QUEENS

Ready for delivery April 1st. Select Untested Queens, $1 each; Tested Queens, $2; Select Tested, $3. You can only get good Queens from the South in the early spring. Book your orders NOW.

H. M. PARKER, JR.

3Atf JAMES ISLAND, S. C.

FOR SALE AT A BARGAIN

90 8-frame Brood-Chambers
200 Heddon Extracting Supers
100 Heddon Comb Supers
100 Heddon Wood-Zinc Honey-Boards
100 Heddon Covers

All in good condition. No disease. Address,

4A2t W. C. LYMAN, Downers Grove, Ill.

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FOR SALE

50 Colonies of Italian and Carniolan Bees for sale. All in 8 and 9 frame 1¼ story hives; all nearly new, and bees all in good condition. Single colony, $6; 5 to 10, $5.50 each.

WM. J. HEALY, Mineral Point, Wis.

Mention Bee Journal when writing.

(Entered as second-class mail-matter at the Chicago, Ill., Post-Office.)

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GEORGE W. YORK, Editor | CHICAGO, ILL., APRIL, 1908 | Vol. XLVIII—No. 4

Editorial Notes and Comments

The National Wins Highest Award

The report of the Commission on Tests, headed by Dr. H. W. Wiley, chief of the bureau of chemistry of the Department of Agriculture, at the First Annual World's Pure Food Exposition, held in the Chicago Coliseum last November, was made public to-day (March 24), by Managing Director Thos. T. Hoyne. Among the winners of highest awards in 41 classes was the National Bee-Keepers' Association which, as most of our readers know, made a good exhibit of honey. With the names of the winners of awards came the announcement of the date of this year's exposition. So great was the success of the 1907 show that the management has extended the time for 1908, and the big Coliseum will again be open for the pure food exposition from Nov. 11 to 21, 1908.

"Comb Honey Proved Pure"

In a recent number of the Chicago Record-Herald there appeared a number of recipes in which honey is used as an ingredient, and also some supposed-to-be authentic information concerning honey itself. Among the statements was one which asserted that "artificial combs of paraffine are now manufactured for the insects," and also that the "wax can not be easily assimilated" when eating comb honey. All of this "information" was published in the department edited by Marion Harland.

Of course there are many bee-keepers who read the Chicago Record-Herald, and at once some of them wrote to Marion Harland, calling attention to the misstatements. Among those who asked for a correction were Mrs. H. M. Arnd, R. W. Boyden, C. P. Dadant, and the Editor of the American Bee Journal.

A few days later a very nice correction appeared under the heading given above. Liberal quotations were also taken from Bulletin No. 59 of the United States Department of Agriculture, which gave full assurance that comb honey is absolutely pure, and that there is no such thing as honey-comb made of paraffine.

Marion Harland promised to make further correction a week or so later. All of which shows that when those who make misstatements about honey are written to in the right spirit, they are likely to be willing to make suitable correction. No errors of this kind should appear without some bee-keeper writing to the editor of the paper. The misrepresentation of comb honey that was started over 25 years ago is still "marching on." It seems almost impossible to counteract its evil effects. However, the best that can be done is to try to correct it whenever it appears in print.

Write for Your Local Paper

Mr. Irving Long, of Missouri, says that if bee-keepers would write something interesting about bees for their local newspapers, there would be a better demand for honey. Surely this would be easy to do. There are so many interesting things that could be written by those who keep bees, and who also have honey for sale, that it would be welcomed by almost any newspaper editor. At the same time it would help to give the editor a little honey and also an advertisement offering honey for sale. There are many ways in which lots of bee-keepers could extend their home market for honey if they would think about it, and then act.

Bottom Starters in Sections

At first glance one would think there could be no surer way to have sections well filled with honey and entirely built out to the wood, than to have the section entirely filled with foundation, either by having the sheet waxed in or by using split sections. But it seems that at least sometimes there are failures. E. F. Atwater says this in Gleanings:

"As I was the first in this part of the West to use sections containing a full sheet of foundation fastened on all four sides, and as that experience has covered several years, extending in part to the present, I feel qualified to say something about the results. In many cases the results are all that could be desired—beautiful slabs of honey without hole or blemish to mar their beauty. But here the (as yet) inevitable sagging propensities of all surplus foundation on the market, in hot weather, is a factor with which we must reckon. A full sheet of foundation as usually used, attached at top only, with 1-16 to ¼ inch space below it, will usually sag evenly, resulting in a comb even and smooth of surface. But if the foundation completely fills the section, being attached at all four sides, then when the sheet does sag, a bulge usually occurs somewhere near the bottom; and the bees, when the comb needs capping, are often unable to puzzle out a satisfactory solution of the problem; a depression or small uncapped area results, besides a tendency toward comb attachments to the separator.

"But the downward sagging does not constitute the only difficulty. Under the manipulation (or "mandibleation") of the wax-workers, the sheet of foundation enlarges transversely, resulting all too often in another bulge in the foundation, and giving rise to another problem which is too difficult of solution for the untaught instinct of the bees, and this results in another blemish on the face of the finished comb."

It begins to look as if there was no better way for getting combs built solid in sections than to use bottom-starters. With them there will be just as solid fastening top and bottom as with hot-waxing or split sections, and without the danger of buckling.

American Bee Journal

Those Honey Crop Reports of 1907

When a bee-keeper meets a stranger whom he discovers to be another bee-keeper, about the first question he wants to ask is: "How many colonies have you?" the next question being: "What was your crop?" Nor is he less interested to get these same items regarding bee-keepers who are old friends and acquaintances. A large number of such reports have been received, and instead of their appearing at different times in different numbers, they have been saved up to appear in the present number in tabulated form.

While this has the advantage that the reports occupy very much less space, it also has the advantage that one may see at a glance just the thing one is most interested to know. It is pretty safe to predict that a great many will vote this an unusually interesting number of the American Bee Journal. They are as follows:

	No. Col.	Lbs. Comb.	Lbs. Ext.
ALABAMA.			
Ryan, H. R. R.	15	82	
ARIZONA.			
Openshaw, W. F.	600		35,000
ARKANSAS.			
Brown, M.	176	4,370	250
Cannaway, H. P.	2	60	
CALIFORNIA.			
Abbe, Chas. H.	150	4,000	
Fray, K. H.	350		22,500
Goodman, Chas.	50	1,300	1,380
Iselin, Sebastian	130	6,490	350
Lee, W. S.	106	134	4,150
Lobre, A.	18		2,800
Muth-Rasmussen, Wm.		11,233	
Scott, U. B.	60	4,481	120
Thayer, H. G.	11		1,500
Wise, O. T.	128	9,000	60
COLORADO.			
Wright, E. C.	21	1,524	
CONNECTICUT.			
Griffin, S. J.	6	402	
Guernsey, C. S.	8	175	
Wiggin, Mrs. C. D.	6	25	
GEORGIA.			
Free, W. J. H.	15	150	25
ILLINOIS.			
Anderson, J. L.	55	2,715	260
Baumgaertner, J. G.	15	300	
Becker, Charles	29		600
Bevier, M.	53	500	100
Bolt, R.	26	1,650	120
Crim, S. T.	34	800	30
Dadant & Sons	210		15,000
Eenigenburg, John	40	546	1,109
Finkenbinder, D. A.	9	800	
Foulk, F. S.	8	325	
Group, John F.	6	600	500
Holdener, J. D.	67	1,600	350
Jones, M. A.	10	500	
Kelsey, W. T.	5	250	
Kendall, Frank R.	11	660	550
Kluck, N. A.	27	400	4,000
Littler, Chas.	80	2,000	
Macklin, Chas. G.	18	1,460	70
Mahr, M. D.	14	300	50
Marshall, Wm.	85	2,000	
May, Fred H.	98	200	250
Meise, F. A.	45	25	
Miller, Dr. C. C.	126	7,300	
Moffett, W. E.	45		2,225
Mottinger, S. L.	23	1,050	
Nydegger, John	50		2,000
Priestman, W. H.	8	300	
Secor, W. G.	30	500	1,800
Slack, Geo. R.	26	700	60
Stordock, C. H.	105	140	5,320
Vogel, Henry	30	2,100	100
Wagner, F. M.	50	400	
Wand, Geo.	9	220	870
Whitmore, Dr. N. P.	5	232	200
IDAHO.			
Boone, A. E.	1	266	
INDIANA.			
Briggs, S. W.	10	150	
Goss, Walter	14	288	
Henze, F. Andrew	6	44	370
Mahin, Milton	13		
Oren, John L.	25	200	200
Sage, George	24	600	
IOWA.			
Adams, Timothy	24		600
Ahrens, Herman	37	840	
Aldrich, B. A.	220	100	12,000
Barber, Isaac	77		9,625
Brown, Harley	11	328	
Burkhart, Otto	6	500	
Cartwright, W.	150	700	2,900
Confare, Geo. B.	62	200	1,200
Doan, Chas.	32	550	950
Dobson, M. B.	13	50	
Egenes, John	6	280	
Fairbanks, C. A.	36	1,700	
Hall, F. W.	131	5,000	3,600
Hinrichs, Henry	43	1,200	1,000
Johnson, Edward J.	16	900	
Lenty, John A.	14	895	85
Lester, W. W.	80		
Little, D. G.	30	1,800	400
May, J. W.	30	100	900
Miller, C. H.	38	488	
Moen, Geo. O.	24		600
Niemann, Joseph M.	29	1,025	600
Peterson, Fred	4	144	
Rigg, Thos. F.	20	1,760	
Roberts, Wm. G.	40		
Schilling, G. F.	50	2,000	100
Schmidt, B. F.	10	250	1,000
Siemonsma, Wm.	2	50	
Stine, Rev. J. W.	6		
Strong, J. L.	122	127	974
Tackaberry, A.	60	986	425
KANSAS.			
Downie, Frank	9	200	
Frank, J. C.	117	1,537	1,213
Hillebrandt, H. F.	15	24	394
Moore, F. D.	8	24	180
Newman, I. M.	2	30	
Zabner, Max	62		200
KENTUCKY.			
Montfort, O. B.	46	700	4,800
Rice, L. T.	6	950	
Swearingen, W. A.	54	1,863	270
MAINE.			
Carroll, Weston	6	80	
MASSACHUSETTS.			
Knox, H. E.	5	127	93
Loring, Miss Martha	1	93	
Shattuck, M. E.	2	225	
Stover, Edward B.	9	40	
MICHIGAN.			
Bechtel, Moses	15	340	
Bleech, G. A.	120		3,900
Doty, H. A.	30	500	1,600
English, Clyde	290	5,000	
Gale, George	18	885	40
Gorton, L. E.	18	500	
Guernsey, A. H.	134	2,200	200
Huntly, A.	31	800	
Myer, Sanford L.	11	300	
Sims, John L.	21	500	300
Tyler, Edward	12	350	
Warne, E. B.	50	2,000	250
MINNESOTA.			
Luedloff, Herman	40		36
Nelson, C. N.	13	400	
Ridley, J.	75	300	2,500
MISSOURI.			
Detherow, Jno. A.	8	192	
Erickson, A. G.	45	400	
French, J.	6	227	
Gamble, H. W.	8	300	200
House, O. H.	4	150	
Keith, H. W.	40	1,000	
Lawing, S. S.	23	1,564	
Long, Irving	39	500	2,000
Moore, Eliza	15	525	
Pancoast, H. H.	33	100	
Porter, Levi B.	7	200	
Robbins, W. D.	15	1,250	
Robertson, R. G.	40	250	250
MONTANA.			
Deal, Jr., Wm. W.	19	1,656	
NEBRASKA.			
Atkinson, Thos.	25	1,100	
Hawks, E. A.	6	326	
Kinnison, D. B.	10	655	
Michelson, Peter O.	5	125	600
Palmer, C. B.	14	1,500	
Warner, A. A.	8	100	1,730
NEVADA.			
Patton, J. E.	124	566	500
NEW HAMPSHIRE.			
Smith, J. P.	20	627	
NEW JERSEY.			
Carr, E. G.	20	250	1,600
Grover, George	63	2,200	1,600
Hann, Albert G.	23	1,400	400
Prankard, G. P.	7	5	30
NEW MEXICO.			
Metcalfe, O. B.	400	1,100	18,000
NEW YORK.			
Anderson, Everett	10	700	
Avery, H. J.	10	125	180
Billyard, Mrs. Buell	13	125	
Bolling, Wm.	28		400
Coggshall, D. H.	415		14,000
Coon, Morris	30	940	160
Gutckunst, Emil W.	34	1,825	50
Gutckunst, Walter	19	875	
Hayes, Wm. J.	1	170	
Janack, Jr., John	21	300	
Jewett, Fred C.	34	1,300	300
Nichols, Homer H.	4		60
O'Brien, Dan	8	80	
Redderit, E.	17	425	375
Roys, F. C.	67		1,500
Yates, Theodore	140	5,500	1,700
NORTH CAROLINA.			
Jones, G. F.	10	500	100
McGuire, G. W.	88	300	700
OHIO.			
Heck, Jacob	10	150	
Irwin, William	65		
McBride, F.	25	800	
Moore, W. R.	12	30	600
Roush, V. V.	74	3,000	
OKLAHOMA.			
Gardiner, N. Fred	2	55	
OREGON.			
Ablers, Herman	176		400
Boyle, Wm. I.	38	2,400	
PENNSYLVANIA.			
Beck, L. C.	42	493	213
Bielow, J. F.	150	8,400	
Buchanan, H. S.	9	160	
Burns, John	40	650	600
Edwards, G. H.	2	80	
Hopkins, H.	67	1,400	800
Hull, J. D.	35	1,200	
Hunsberger, A. C.	47	2,600	
Ingham, Robert	4	120	
King, T. Frank	6	200	260
Kline, J. E.	50	1,500	50
Miller, G. E.	51	1,500	500
Peck, Sidney A.	21	880	
Turner, Elmer E.	95	6,700	400
Wentworth, G. N.	66	1,800	
White, C. E.	7	150	
Will, D. W.	17	465	
Williams, W. S.	36	1,500	
SOUTH DAKOTA.			
Dahl, A.	4		21
Syverud, L. A.	49	1,700	700
TENNESSEE.			
Hix, B. C.	5	175	
Murphy, E.	10	25	575
TEXAS.			
Murry, H. D.	54	1,236	1,700
Sueltenfuss, Otto	77	3,655	3,205
Williams, Fred	10		500
VERMONT.			
Cram, M. F.	50	1,500	300
Fisher & Son, H. D.	41	1,000	
VIRGINIA.			
Oglesby, N. P.	37	1,000	
WASHINGTON.			
Hopsecger, Chas. W.	47	2	398
Peters, John J.	18	100	
Rice, O. K.	25		580
Smith, E. W.	10	20	
WEST VIRGINIA.			
Mersing, E. C.	90	1,200	800
Shockey, Ira	28	300	
Thatcher, Wm. A.	45	500	
WISCONSIN.			
Barnes, W. D.	20		400
Barrette, Mrs. Paul	35	500	
Bergstrand, Chas. O.	3		
Blunck, Fred	5	246	
Brown, J. E.	84	2,500	
Church, L. F.	30	800	780
Cochems, John	52	53	600
Duax, E. A.	16	630	744
Goodnow, V.	14	250	448
Greenwood, H. E.	90		5,500
Hansen, James	18	783	
Hatch, C. A.	125		2,500
Hanselman, E. H.	125		5,000
Heurkens, Herman	42	110	2,610
Holtman, G.	360	8,000	300
Roller, John	112	125	680
Lehmann, Ed.	146	100	5,000
Lockwood, Fred	23	700	500
Matzke, F. E.	50	1,500	1,500
McClain, Archie	18	125	400
Parman, L. W.	22	950	1,034
Pierner, John W.	62		1,200
Plumb, Mrs. J. C.	25	631	50
Savage, H. W.	81	170	40
Stoflet, Frank	157	3,500	500
Thorstad, J. E.	48	1,300	
Voigt, C. H.	65	50	1,400
Wagner, L. F.	68		
Wilde, Wm.	84		2,100
Witter, Lafayette	9	500	
CANADA.			
Bridge, A. M.	38		350
Coddington, John H.	2		250
Verret, Jacques	115		4,496

National Convention at Detroit

Secretary Hutchinson is beginning early to work for not only a good convention this year, but also to get a large

American Bee Journal

attendance. We hope it may be a great one in both ways. Here is his letter:

WHAT SHALL BE DONE AT THE NEXT NATIONAL CONVENTION?

We have laid the foundations for the next National Convention. We have selected the city (Detroit) in which it is to be held, secured the Wayne Sun Parlor for holding the meeting, and decided upon the dates October 13, 14 and 15. We know where and when the convention is to be held, and can begin to lay our plans accordingly.

The next step is the arrangement of a program. Of course, the burden of this work will fall upon the Secretary, but he can be greatly assisted, and the convention made vastly better, by the help, hints and suggestions of the members. It is with this end in view that I am going to outline briefly what I have in my own mind, then, as is the case at a convention, when a motion has been made, we will have something "to talk to."

I would suggest that the first session be held in the evening, and wholly devoted to a discussion of diseases of bees. I have made application to the authorities at Washington to send a scientist to the meeting, probably Dr. Phillip White, who can take up the matter from a scientific standpoint, show how these diseases are studied by the use of cultures, and illustrate the matter with a stereopticon if possible. Then have some one of the Inspectors tell how a practical bee-keeper can detect foul brood. He, too, might use stereopticon pictures in giving his description. Ernest Root has promised to furnish his stereopticon, if one is desired. Next, let another Inspector give the best methods of treating diseases. Then wind up the evening by a general discussion of the subject.

Another factor that has been suggested to me, is that of having at least one debate during each of the day sessions. I believe this is something that has never been attempted at any of the meetings of the National. Suppose, for instance, we take up the size of the hives. Let us say: "Resolved that a 12-frame, Langstroth hive-body is more desirable, in the production of extracted honey, than an 8-frame hive-body." Get some experienced, competent man to take the affirmative, and some other equally good man, who believes in the 8-frame hive, to take the negative; let these men be chosen early in the season, secure their consent thus to enter the arena, then they can have months to prepare for the contest, and we common folks can sit back and enjoy the "flow of words and the feast of reason."

As a rule, I think that most of our conventions are held down too closely to the steady grind of hard discussion, session after session from beginning to end of the meeting. I think at least one evening session might be very profitably and pleasantly devoted to something in a lighter vein. I suppose that a banquet followed by responses to toasts would be in this line, but there are objections. First is the cost, which would not be less than $1.00 a plate. This is not really serious, although there might be some difficulty in determining in advance how many would participate, so that preparations might be made on sufficient scale. I may be old-fashioned, but the real objection, in my mind, is the late hour at which we would be compelled to begin our responses. The regular supper would have to be out of the way before the dining room could be used for spreading the banquet, which would require some little time. If we finished our feast at half past nine we would be fortunate indeed, and it is likely that midnight would still find most of us out of our beds. To persons accustomed to late hours this would mean nothing, but most of us bee-keepers are plain country folks, accustomed to early hours, and to be up half the night means extreme dullness, possibly a headache the next day. To attend a convention at some distance from home is more or less of a strain, at best, and every precaution ought to be taken that the members should feel just as well, and as bright, as they possibly can; otherwise, there is little enjoyment. My idea is that we cut out the banquet part, the feast at 9 or 10 o'clock at night. Just take our usual supper at the usual time, then meet at the usual time, 7:30 p. m., or whatever time we think best, and begin at once the responses to toasts or sentiments, finishing up at 9 or 10 o'clock. Then the next day we will feel as well as ever, ready for business, and discussions, and able to enjoy ourselves. I would suggest that 8 or 10 of our best speakers be chosen, and appropriate topics be chosen for each, early in the season, that there may be plenty of time for thought and preparation. I would announce the topics in advance, also the list of speakers, but I think I would leave it a secret, as to which speaker each topic would be assigned, until the announcement was made by the toast master. I think the speeches ought not to exceed 10 or 15 minutes—the right man can say a lot of good things in 15 minutes.

Another feature, for which I shall put forth my best efforts, is to secure the greatest possible attendance of bee-keepers' wives. It may be just a little out of the line of bee-keeping, but I hope I may be pardoned for saying that, naturally, business takes men out into the world. A man has the incalculable advantage of a great variety of experiences, and freshness of view. He is continually coming in contact with new people, new things, and being moulded by a vast number of forces which never touch the wife in the quiet home. I believe most women feel this terrible depression of the monotony of their lives, the lack of that stimulus which comes to man from constant change. Let us begin now to plan for the making of a big break in that monotony next October. There is a saying that good works and charity ought to begin at home, so I have secured a promise from Mrs. Hutchinson that she will accompany me to the convention next October. Then I secured a similar promise from my brother's wife. Then I wrote to a few near acquaintances, such as Manager France, President Hilton, Ex-President Aspinwall, and asked them if they would bring their wives, and all replied that they would do so. My friend Muth, of Cincinnati, also writes me that he will bring Mrs. Muth.

I think I would have at least one good essay each session, then the debate, as already mentioned, and finish up with the question box, which I hope will be contributed to from all over the country, by those who are so unfortunate as to be unable to attend.

One other little point: As everything promises to be on a larger scale than usual, I have already made arrangements for the use of a camera that will take a picture 14 x17 inches, and I hope to make a group picture that every member will be proud to hang upon the walls of his home. I shall see to it that each person in the group has a number upon the lapel of the coat, and a printed list giving numbers, names and addresses, will accompany each pictures, then all can see who is who.

What I have written simply gives a glimpse of the program in embryo. Nothing is definitely settled. I shall do my utmost to make the convention one of the most enviable, the best and most really helpful, that the Association has ever held; and I earnestly request every one who has any interest whatever in the matter, to write me a letter full of advice and suggestions. Tell the subjects you would like discussed, and the persons you would like to have discuss them. Suggest topics for the responses to toasts or sentiments, and the men you would desire to hear respond. Tell me what subjects you would like to hear debated, and the men you would like to hear do the arguing. If I have suggested something that does not please you, let me know, giving reasons why. Take hold, right now, and do your share in making the coming convention a grand success. W. Z. HUTCHINSON.

Flint, Mich.

An Octogenarian Bee Editor

Signor A. DeRauschenfels, the editor of the Italian bee-paper, "L'Apicoltore," was 80 years old on March 1, 1908. His paper is one of the most progressive in Europe. It is published at Milan, Italy.

Mating Effect on the Drones

We have received the following in reply to an article in the February number:

"After reading what T. W. Livingston says, on page 49, I can more easily understand how he has drones colored by the mating of the mother. He says that his mismated queens after a time turn darker, so that the difference in color is plainly apparent. As the drone depends only on his mother for his color, if Mr. L. has that kind of queens which change color after mating, of course it is nothing strange for the drones to follow that change. As I have never seen any change in the color of my queens after mating, naturally, I would see none in the drones.

E. V. PAGAN."

Borage as a Honey-Plant

In Praktischer Wegweiser, page 280, Herr Willhelm says that in response to the general cry, "Sow borage," he has been sowing it for years and now has it in abundance. How the bees do hum upon it! But alas! now that he has it in such abundance that it shows its character in the surplus honey, he finds it such as no customer wants, and says it is black as a certain "gentleman" with whom bee-keepers do not generally care to have dealings. The task of getting it now rooted out is a difficult one.

From this we may take warning. If bees are found working very eagerly on a few plants of a certain variety, before largely increasing the area of such plants it may be well to learn something of the character of the honey secured from them.

Bees Absconding when Shaken

T. J. Barringer says this in Gleanings in Bee Culture:

"It has not been clearly stated in the journals that it is necessary to cage the queen when the bees are shaken on to new combs. One of our bee-men of Tulare, a Mr. Gambel, had 78 colonies shaken on frames of foundation for foul brood, and none of the queens were caged; 75 out of the 78 swarmed, and went to the woods.'"

This is probably quite unusual, but it is well to be on the lookout.

Got a Bee In It

Auntie—Now, Tommy, take my bonnet up-stairs for me, there's a good boy.

Tommy—Boo-hoo! I don't want to!

Auntie—Indeed! And why not, pray?

Tommy—'Cause mother told me you'd got a bee in it.—The Sketch.

Minnesota State Bee-Keepers' Society

Not long ago inquiry was made as to whether there was any bee-keepers' society in Minnesota. There seems to be a State society with such favorable

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terms for membership that it surely deserves, as it probably enjoys, a flourishing membership. The annual payment of $1.25 not only secures membership in the State society, but in the National as well, and also in the Minnesota State Horiticultural Society.

A circular of the Minnesota State Society says:

"'From the Horticultural Society we get literature in pamphlet form every month, and at the end of the year the same in book form, and our programs and convention reports printed with theirs; also two plant premiums, if the Secretary is notified before April 1st."

The membership fee may be sent to the president, Scott Lamont, Jarrets, Minn., or to the secretary, Rev. Chas. D. Blaker, Sta. F., Minneapolis, Minn.

Florence Makes and Paints Hives

I am sending you a picture of my 19-frame hive with 3 supers standing on

Florence Bellamy.

edge on top of it. Each super holds 65 sections, or 195 for the 3; 170 being filled with honey and sealed over, and 7 filled on one side and half filled on the other side.

I am enclosing also a picture of my 12-year-old son, "Jimmie," with a hive that he made himself; and another of my 11-year-old daughter, "'Florence," with a hive that she made and was painting when the picture was taken.

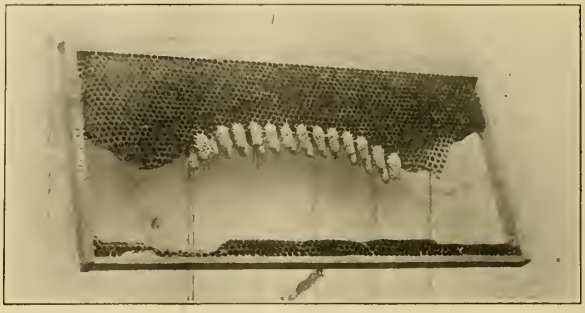
Syracuse, N. Y. H. F. Bellamy.

[The picture in which "Jimmie" appeared, and also the one showing the 19-frame hive, were too dim to engrave.—Editor.]

The Plural Queen System

The spring of 1907 was, in this locality, the worst I ever knew. Feeding, uniting, and all other methods I knew of for obtaining strong colonies fell far short of the desired results. Rev. Langstroth said, "Keep all colonies strong." That is good advice, especially so where one is rearing queens, because weak colonies mean weak queens.

After all methods that I knew of had failed to give me colonies of the desired strength, I began experimenting on the plural-queen system. The result of my efforts is shown in the cut. There is nothing new or original in my method; it is simply a combination of others



Batch of Queen-Cells from Plural-Queen Colony.

which I have learned from the pages of bee-papers.

I first select the strongest colony on hand; then the weakest one. I find and cage the queen of the weak colony, then after forcing the bees to fill themselves with honey, they are shaken into a box that has the two sides covered with wire-cloth. The box containing the bees is now placed in the shop. Now take the brood from the weak colony to the strong one, remove all frames from the strong colony that do not contain brood, and place the brood from the weak colony in their place. The hive is now closed and left so until evening, when the cover is removed and a Chambers cell-device (as described by J. E. Chambers, in Gleanings), and an empty body placed over the brood-chamber; close the slides, and open the flight-hole in the Chambers device. Now remove the queen from the cage, shake the bees down in the box and drop in the queen. Then put into the empty body over the strong colony a frame of hatching brood, and 2 of honey.

Take the box of bees that now contains the queen, and dump them into the prepared body, and put on the cover. Keep adding hatching brood till the body is full. When the bees become acquainted I remove the Chambers device and substitute a queen-excluder. When the colony reaches the desired strength I put the Chambers device on, then an empty body. In the added body put 3 frames of brood, and a Doolittle feeder, close the flight-hole, and draw the slides, and feed a little warm feed, which will draw the young bees up. In about 3 days close the slides, cut all cells that have been started and insert a frame with prepared cells.

When the photo was taken, the 6-story colony contained 5 queens. The other small picture shows the result

Apiary of J. Donaldson and Plural-Queen Colony.

of their work as cell-builders. You will notice the cells are attached to the bottom of a brood-comb instead of a stick. I got that idea from Mr. Doolittle at the Jenkintown Field Day. A

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questioner asked him how many cells he usually placed on a stick early in the spring. He replied, "None; I put them on a comb." I went home and tried it, and find that I get a larger percentage accepted, especially if the comb contains sealed brood. J. DONALDSON.

Moorestown, N. J., Dec. 24.

Views of D. J. Blocher's Bee-Yards

View No. 1, on the first page, shows part of a Caucasian yard 3 miles from home, and located at the cross-roads. The nearest hives to the road are only about 2 rods from the track. I tried the Caucasian bee 2 summers and will now quit breeding that race of bees, and Italianize them. They are nice bees, but are objectionable here for various reasons. First, in spring and fall they are inclined to rob. Second, they are inclined to swarm. Third, they fasten many of the frames to the front of the hive at the bottom. One colony filled up the front with a gray ash sort of propolis, and just left holes to crawl through. Fourth, they do not gather as much honey as the Italians. I have given them lots of room and they swarmed in spite of the room. I confined them to small room below and could hardly get them into the supers. I have decided to quit breeding this bee.

View No. 2 is one of my Italian yards. I run 3 Italian yards and one Caucasian. But now I will have 4 Italian yards. I have the darkest bees here. I pay $10 a year for the ground, but haul all home to winter in the cellar. All the yards are so located that I can call at all of them and get home in half a day. The farmers are beginning to sow alsike clover, so I do not think it necessary to locate them far apart. We try to have our yards graded as to color, and so watch results. The yellow bees so far are doing as well as the darker ones, and are more gentle. The home-yard is in the sun, and so I enjoy going to 2 out-yards where there is shade to work in. I never set a hive in thick shade for honey-gathering. In the sun has always proved best for me in every way except for operating, and I select the cooler part of the day for that, except in a few cases.

Stephenson Co., Ill. D. J. BLOCHER.

How to Get Bees in a Hive

J. W. Jackson, of the new and enterprising State of Oklahoma, writes:

"Enclosed find a clipping from the bee-department of the California Cultivator, which seems to show they don't take bee-papers out West. Send him a sample copy."

The clipping, replying to a question, reads as follows:

"A practiced bee-keeper to whom the above question was referred, says he saves swarms of bees which go into trees by setting hives a little distance from the tree in which he puts comb cases, with molasses at the mouth of the hive, and also in the hive. When the bees discover the hive they will go to work, and as soon as this is done he smokes the tree until the bees leave it, which they will do in a short time and take to the new hives. He then removes the honey, being careful to leave enough near the mouth of the hive to keep the bees from starving until the new hive is established. While the smoking process is under way, a noise at the new hive, made by heating a tin pan, will attract the attention of the bees and direct them to their new quarters. Care must be taken to protect the body from the angry bees meanwhile."

There's richness for you! The phrase "heating a tin pan" is probably a misprint for "beating a tin pan," but one is just as good as the other.

"Grandpa Hutchinson" Telling Stories

The picture shown herewith appears in the American Bee-Keeper for March.

"Grandpa Hutchinson" Telling a Story.

Referring to it, Mr. Hutchinson says this:

"Perhaps I may be allowed to indulge slightly in a grandparent's prerogative, and say just a few words about those 6-year-olds leaning upon my knee. They are the eldest children of my twin daughters, and they pretend to live across the street from us, but it is an open question whether they do muen more than go across there to sleep. The picture is no unusual scene gotten up for the occasion. It is enacted daily in the office of the Review. What a love we mortals do have for stories! I have gone back to my very earliest recollections and raked and scraped every little item that I could recall down to the present time, and drawn all that I dared upon my imagination, and still the call is 'more,' 'more.' And then the questions! I never before realized that there were so many things that I did not know.

"By the way, the little boy has taken me for a pattern. The strongest argument that he can bring to bear is that 'Grandpa does that way.' For instance, his mother would like to part his hair in the middle, but he resents it—'Grandpa does not do that way.' When asked what he will do when he grows up, he says, 'Keep bees, just the same as Grandpa does.' He has been with me to the apiary, time and again, and has already received his baptism of stings, taking it bravely. He can nail up frames, and he and I have already made a bargain that when he is old enough and I am too old, he shall have the Review. Seriously, stranger things than that have happened.

"There is a saying that, 'Youth hopes; old age remembers,' and I have often noticed that an old man has no greater pleasure than that of recalling the scenes of his youth. It must be that I am still in the golden mean, for while I do sometimes recall with pleasure the 'good old times when I was a boy,' there still run in my veins the hope and fire of youth."

Surely the picture is a delightful one, and we are glad to present it to our readers. The expression on the faces of

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those two dear children is perfect. It isn't often that anything so natural, and so beautiful, can be gotten up for the camera to catch. There is something so sweetly restful and satisfying in the appearance of their faces, that it seems almost impossible to cease admiring them. "Grandpa Hutchinson" must have developed into a wonderful story-teller as well as bee-keeper.

Conducted by EMMA M. WILSON, Marengo, Ill.

Is She Wrong?

Miss Trevarrow says this in the Canadian Bee Journal:

"How is that now? The side of a cell is the bottom, the opposite side is the top, the bottom is one side and the top the other. If this be wrong, please correct in your next issue."

Honey as Food.

Late investigations lead to the belief that honey, the earliest form of sugar that human beings could obtain, is still about the best. It is counted, as the result of these experiments among the most nutritious and delicate of foods.

Not only does honey seem to act as a cure for diseases of the throat but as a somewhat remarkable purifier of the blood. The only obstacle in the way of its more general use appears to be that many people cannot eat it without stomachic pain.—Prairie Farmer.

Cleaning and Casing Honey.

While I was at Mr. Gill's their daughter, Mrs. Marian Fuller, of Beloit, Wis., cleaned and cased 125 cases of honey from 7 to 5 o'clock with half an hour for noon. She had the doubletier case, 24 sections, 1⅞x4¼. She had to wipe the glass, place 8 strips of wood in position, and put paper in, and she had to carry a good deal of it into the next room; also had to wait for cases part of the time. I think she could clean and case 150 in 10 hours with the single-tier case, and no waits to make and no sticks to space.—F. J. Farr, in Gleanings.

Putting Comb Foundation in Frames.

Mr. T. P. Robinson, speaking of putting foundation in frames, says in Gleanings:—"It is often claimed that it is a slow tedious job to put it into the frames. This is the case, without a doubt, unless a person is fixed for it and acquires some skill in putting it in. I must say that I am no adept at this art, but Mrs. Robinson is, and can put in foundation in a whirl. I do not wish the bee-folks to think I am lazy, and that my better half is making the living, when I say that Mrs. R. puts all my foundation into the frames. We use a VanDeusen wax-tube in the work; so, to redeem myself, I must make known the fact that I bring supers of empty frames, take away the full ones, imbed the wire, keep the wax warmed to the right heat, keep foundation handy, etc. You may think this is an easy job for me to do while Mrs. R. puts in the foundation. It isn't so easy when she puts in 120 Hoffman frames per hour, or two per minute. She can do this all day long, and put in some 1200 sheets of full-size brood foundation. To make the matter of more importance, she much enjoys the work".

Upon which Mr. Scholl comments:—"The above is quite a good record for a woman." "For a woman," indeed! But then the comment is well enough—for a man.

A Contrast in Honey Results.

At the Massachusetts convention as reported in Gleanings, page 159, "Miss Cutter, of Princeton, gave her experience with the seventeen-frame Latham hive from which she obtained 111 lbs. of honey while her other colonies gave her no surplus."

Honey Gargle for Sore Throat.

Prepare ½ pt. strong sage tea and add to it 2 tablespoonfuls each of strained honey, strong vinegar and table salt, and 1 rounding teaspoonful cayenne pepper. It is better to steep the pepper with the tea, and strain before adding other ingredients, then bottle. Gargle four to six times a day.—Mrs. Jennie M. in Farm and Home.

Producing Bulk Comb Honey.

Mrs. Frances Thompson deserves, and is hereby given, very hearty thanks for sending such full and satisfactory particulars when making inquiries. Some seem to think it is only necessary to say, "I got no surplus honey last season; what was the matter?" that they may then get minute instructions just what to do to get a bouncing crop at the next harvest.

Mrs. Thompson, your problem of getting comb honey in frames to be cut out, and at the same time to keep down increase, is not the easiest in the world. You ask about the Scherzinger plan. By that plan, when a colony swarms the swarm is hived in a lower story, over which is placed an excluder, and over this the old hive with its brood, all queen-cells being removed. Then you ask, "After the brood is all hatched, is the old hive taken away or placed at the bottom?" Neither; it is left above, and becomes an extracting chamber. You see the plan fits extracted honey. The plan of piling up, with abundant ventilation, (only one queen in the pile) also fits extracted honey; but there is no trouble, as you fear, from the rain getting in between the stories.

It might be well worth your while to try the plan on page 70, under the head of "Prevention of Swarming."

It is not easy to say why you should have so much trouble in uniting bees. Do you really think cross bees are worse than gentle ones about uniting? Our bees are cross enough, and there is seldom any trouble about their uniting. But it makes a difference how and when it is done. When bees are busy gathering there is no trouble. In one case you dumped the bees in front of the hive you wished them to enter, drove them in with smoke, and they were slaughtered. Are you sure the bees of both lots were well filled with honey? That makes quite a difference. It would have helped, too, if you had dumped in front of the hive *both* lots of bees, letting both run in together. Being confused by such a proceeding, they would be busy thinking about finding their home rather than killing the other bees.

Glad to hear from you again.

Therapeutic Value of Honey.

"According to Dr. Pol Demade, who writes on this subject in *La Réforme Alimentaire* for January, honey occupies, or should, at least, occupy, an honorable place in therapeutics. Since up to the present date this right has not been generally accorded to it, the Doctor draws the attention of his confrères to certain experiences of his own, and also gives his reasons for the conclusions to which he has been led. He relates that the Lady Superior of a certain convent asked his advice about a tiny, emaciated baby. The child, which lay in its mother's arms, was 9 months old, and gave one the feeling that it had but to close its little eyes for death to assert itself. The infant was suffering from diarrhea, which had refused to yield to all remedies tried; the poor little creature was emaciated to an extreme degree, with black rings under the eyes, and the lower stomach fearfully large. The poor sufferer had no appetite whatever, but was in its place plagued with almost incessant vomiting and diarrhea.

"This sickness, it appears, the French and Flemings call 'old man.' 'What,' says Dr. Demade, 'could a medical man hope to do with such a wretched specimen, which any breath might send into Paradise? And yet there stood the mother pressing this remnant of life to her heart, her ninth child, which she told me she loved better than all the rest.

"'I ordered her to feed the infant on honey and water, nothing else absolutely for 8 days, and, turning to the Lady Superior, I added that if the child were still living at the end of that time, to give goat's milk and water in the proportion of 1 to 2 parts, respectively. I dismissed the case from my mind, since

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I did not hope for anything better than death as a release.

"'What my astonishment was when at the end of 3 months I was shown a healthy-looking, well-nourished baby, with an excellent appetite and regular habits, and its stomach reduced to normal proportion, may be easily guessed, Here was my little wretched creature nothing less than metamorphosed by means of the honey. And I learnt that the mother had used my remedy to other children who suffered from stomach disorder with equally good results. I profited by her experiments, and I have since found the use of honey in any disease of the digestive organs a most valuable agent.'

"The Doctor adds that he has tried honey as a remedy for that most obstinate of all diarrheas which follows an advanced stage of pulmonary consumption, and even with young animals, and has in every case been rewarded by seeing the diarrhea stop, and a desire for nutrition take its place. The list of chemical compounds used to clear the intestinal canal, with more or less good results, some of which work other mischief, is a long one; honey, which is at once cleansing and nutritious, ought to take their place. And it may be that this is only one of the therapeutic uses out of many to which it might with advantage be put.

"Dr. Pol Demade argues that it should be easy for any practitioner with common-sense to recognize the reasons for this high value possessed by honey. It is, in the first place, a most extraodinary natural product. It is a sugar, but not of the ordinary kind. It is antiseptic, almost free from fermentation, and withal capable of almost instant assimilation in the organism with next to no exertion on the part of the digestive agents. Ordinary sugar is saccharine, whereas honey is a glycose. The former ferments readily, and has to be turned into glycose by the action of the saliva or some of the other digestive juices before it can be assimilated. In the case of a healthy stomach, saccharine can be dealt with at no great expense to the system; but when the digestive organs have been weakened by disease, and the whole nervous system is extra-sensitive, sugar should be withheld and honey given."

The foregoing article taken from the Vegetarian Messenger ought to be of especial interest to those of the sisters who have anything to do with looking out for what goes on the table (and which of us has not?), but especially those who have the care of little ones. It is not likely that such remarkable results as here depicted would follow in all cases; but it is entirely possible that some other little lives might be saved by following a like course. And would not a little less sugar and a little more honey be for the health of all, old as well as young?

Conducted by LOUIS H. SCHOLL, New Braunfels, Tex.

The Divisible Brood-Chamber Hive.

(Illustrations Courtesy of Gleanings.)

Again I have a complaint to make. A number of letters inform me that I have never given "a description of the divisible brood-chamber hive I use, nor dimensions of the different parts, etc., so that they could be made after such explanation." In response to these I shall once more use space in describing it briefly.

The hive and its different parts can be easily obtained of any leading manufacturers of bee-hives. Several such similar hives are already catalogued. But for a few slight differences they are practically the same. In the cut is shown the outside appearance of my hive. It is made up of 5¾-inch shallow frame cases, taking Hoffman frames 5⅜ inches deep, with ½-inch top-bars ⅞-inch wide. All the cases, whether for brood-chambers, extracted honey, or comb supers, are alike throughout, and this is one of the valuable features about this hive. Hence, all are interchangeable. The same frames are used for brood-frames as when producing bulk comb or extracted honey. The same cases are used for section honey, arranged with sections, of course.

This makes the simplest and yet the most expansible hive as well. It can be enlarged for the strongest colony or decreased in size for the weakest, and, unlike the full-depth hives, these shallow ones permit of a more gradual expansion to keep pace with the increased size of the colony.

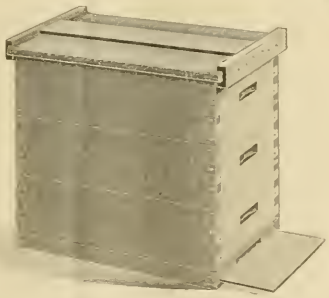

Fig. 1.—Divisible Brood-Chamber Hive.

In Fig. 2 is shown a single case with the shallow frames. This is exactly the same as the 5¾ shallow frame supers for extracted honey listed in supply catalogs, except that my frames have a narrow ⅞-inch top-bar ½-inch thick. This makes a stronger frame and the top-bars are less liable to sag, which nearly all my old frames have done. It also provides more space between frames.

This shallow super is used extensively in the Southwest for producing bulk comb honey, and is also coming more in vogue for extracted-honey production, above regular full-depth brood-chambers. In producing surplus honey it is often best not to put on full-depth supers, as it provides more room than the bees can occupy at once, while they could easily fill one of these supers. When the work is well along another one may be given below the first one.

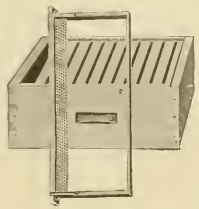

Fig. 2.—Deep Super with 5¾ Inch Frame.

For section comb honey the supers are arranged with the regular 4x5 sections between our Hyde-Scholl slotted separators. With this super fancy comb honey can be produced much more readily than with any of the super combinations now on the market, as we have tried all of them for several years. This is due to the freer communication in the supers, especially the transverse opening just opposite the upright edges of the sections. In other separators the communication is cut off just at this point, and besides preventing freer communication here, it causes the bees to round off the combs in each section, and retards the sealing of the cells in the last row next to the wood. With the above super such is not the case, but a row of sections represents a solid comb when completed, with upright cleats in the comb. There is free communication all along the comb, and from one comb to the other, hence the super is *not* cut up into so many small boxes.

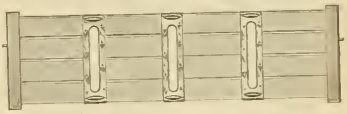

Fig. 3.—The Hyde-Scholl Separator.

Any favorite, standard size bottom-board and cover may be used with this divisible hive, as all the cases are the same as the regular L. hives, 16 x 20 inches outside measurement, for the 10-

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frame size.

Please remember, dear reader, that I have none of these things for sale. I am not in the supply-business, neither have I an axe to grind, and my harping on this question was due only to the many letters that were answered in this way. The hive parts can be obtained from any supply-manufacturers as regular goods, except the frames, which can be ordered made after the dimensions given.

A Wind-Mill Hive-Plant in Texas.

The matter of providing our bees with a nice, pleasant home that will turn water and wind, is of great importance to the man who has hundreds of colonies of bees to provide for, when we consider the present ruling price for manufactured hives. I found after my bees were running into the hundreds of colonies, and constantly increasing—a feature I courted—that to buy ready-made hives was a fearful drain on my bank account—a much greater drain than I was pleased with, or intended to allow. I was a natural-born mechanic, studied the matter all day, and dreamed of it at nights when a boy. When I became my own man, I proceeded to make applications of various characters along mechanical lines. I straightway proceeded to make anything that I chose to make, out of iron, steel, or wood. Thus it will be seen that I had a storehouse of knowledge on which I could draw at will. Therefore, to allow a little problem like a bee-hive plant of a novel and practical character bother me for a moment was a matter I never stopped to reflect upon, when the time came for me to be in need of such an adjunct to my apiarian equipment.

I began to care for bees when I was a boy 16 years old, and grew up in the business, or with the bees, if you wish. I never thought or intended to make a bee-man. I became a bee-man by chance, step by step, day by day, year by year, until I found my bees running into the hundreds of colonies, and my output of honey running into tons annually.

Furthermore, I found that orders for honey sent me annually was twice that of my output, therefore I resolved to enlarge my apiaries, and install new ones until I filled my orders for honey, or had all the bees that I could manage.

Finding myself in this sort of predicament, of needing many hives and hive-parts annually, I decided to manufacture them, and proceeded to execute my decision, as I could not afford, to my mind, the price for hives and the freight.

It was a matter of little consequence to install a circular saw to make hives and frames, but the power to pull or operate the saw was quite another thing.

It would cost something like $100 to install a gasoline engine to operate the saw. That wouldn't do—too much money for the engine, then it eats fuel every day, additional. I could put in a horse-power for $30, to which I could hitch my farm mules and do the work of running the saw, but there would be a mule driver needed—an additional $1.00 per day for the driver; $30.00 was too much for power, with wear and tear on mules, feeding, and a wage for a hired man. None of these modes of power appealed to me because of expense.

I live on a big prairie of Texas, 40 miles from water, and to install water-power was a "long shot at a buck in Buncombe"—out of the question. I knew that there were hundreds of thousands of horse-power going to waste over my farms some days, in the wind, that if harnessed properly would pump the St. Lawrence river dry, and make a stepping stone of Niagara Falls. I decided to harness about one billionth part of it and have it make bee-hives for me.

The wind-motor illustration shows the simplicity and practicability of my decisions. This outfit, for material, cost less than $10. Should I say it cost less than $2 for what it is doing, it would be hard to believe, would it not? Such is the case, however, when it is understood that the whole affair is built out of house-constructing material, and not at all damaged for house-building purposes, to which use I will put it as soon as I am through making hives. All the loss there is in the mill is the main axle, pulleys, and cleats on the sail-spoke, clamps on the spokes at the axle, and bolsters on the post or frame. The mill is self-explanatory. A 2½-inch gas-pipe serves as spokes to the wheel. The wind angles for the sails are cut in the scantling for the cleats, on which is secured the corrugated sheet-steel roofing with screws. A pin is put through the axle for one of the spokes to hold to. At the center a notch is cut in the center of the scantling to fit around the axle. A short piece of scantling is cut to fit the other side of the axle, and two bolts are put through to bind the scantling to the axle. A strong wire goes around the wheel, secured at the outer circumference to each spoke, making all pull on the one spoke secured by the pin. The axle revolves on the bolsters of the frame in iron boxings, with a pin on each side of the boxes through the axle.

Courtesy of Gleanings.

Robinson's Home-Made Windmill for Sawing Hive Lumber.

The mill is set north and south. The skeleton frame on which is rests is braced fore and aft. To make it more secure it is fastened to the ground with strong wire. Power is transmitted to the ground by means of a rope belt from the pulley well in view. A 1-inch gas-pipe 18 feet long serves as a line-shaft from which the power is applied to the saw, by a pulley put on the end of the shaft under the saw-table. A friction-brake is on the main axle, back out of view, which gives the operator perfect control of the mill at all times, to stop and start it at will.

The mill is geared 40 to 1, which in a moderate wind gives the saw a speed of 1-3 to 1-2 mile per minute. The saw-

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table is constructed with a movable top. The lumber is secured to the table top, the whole being pushed to the saw, and you have to push, too, when the wind is blowing.

I made the whole outfit here at my shop except the saw, and would have made that also if I could have had a piece of suitable steel.

Any one with moderate mechanical ability and good judgment can construct this mill, as somewhere near right will do, but when you go to making the pulleys and saw mandrel to run true and correct, without the aid of turning lathes and machine auger, you have to be a mechanic and do things right.

The material for the construction of a 10-frame hive, complete with super, 20 frames, nails, wire and paint, costs about 65 cents. How does this compare with the Northern made hive of the same kind quoted at $2.30 each, with no paint furnished? The same hive laid down here will bill out thus: One ten-story hive, $2.30; freight on the hive, 30 cents; paint for same, 5 cents. Total, $2.65.

This shows a difference of $2 per hive in favor of the wind-motor saw. I can easily make 20 complete hives in a day, at a low estimate, which shows a net saving of $40 per day. The windmill paid for itself the first 4 hours that I ran it.

I have nothing against the bee-hive manufacturers at all. They are badly needed, and are doing a good work, but it is not necessary for me to pay $2 per hive extra just to be changing money from place to place, when the mill will do the work, costs nothing for power, and uses only about 5 cents worth of grease per year. I have had the mill in operation about 10 months.

T. P. Robinson.

Central Tennessee Convention

The Central Tennessee Bee-Keepers' Association will meet in the rooms of the Board of Trade, at Nashville, Tenn., on Saturday, April 25, at 10 a. m. This being the regular annual meeting for the election of officers, etc., a full attendance of the members is desired.

An interesting program has been arranged, including essays and discussions on subjects that will be of interest to all bee-keepers.

J. M. Buchanan, *Sec.*

Franklin, Tenn.

Conducted by J. L. BYER, Mount Joy, Ont.

Brood-Rearing in Winter.

It seems to be a generally accepted view, that bees wintering outdoors do little if any brood-rearing during the winter months. So good an authority as O. O. Poppleton, in comparing bee-keeping conditions of the North and South, says in the March American Bee-Keeper:

"In Iowa, and I suppose over the North generally, bees often cease all brood-rearing in October—almost always in November, and do not commence again till late in March. During nearly all this time they do very little outdoor work, and are not dying off rapidly as they would if active."

As regards cellar-wintered bees, Mr. Poppleton's statement could be, in many cases, correct, but the last clause of the quotation clearly shows that he has bees outdoors in mind, and with all due regards for the opinions of others, the writer desires to take issue with the common idea that bees in that condition do not rear any brood.

Three years ago, I helped to destroy 2 strong colonies in the last week of December. The owner had noticed a few cells of foul brood in each of these colonies when preparing the bees for winter, and not wishing to take any trouble with them, he decided to leave them till cold weather, destroy the bees and melt up the combs into wax. In both colonies we found brood in 3 combs, in all stages from the egg to hatching bees, showing conclusively that brood-rearing had been going on as early (or late) as Dec. 9.

About the 15th of February, of the present cold winter, a farmer 3 miles from us cut down a large basswood tree, and found that there was a colony of bees in the tree some 40 feet from the ground. He sent word to a bee-keeper,—Mr. D. Ramer, of Cedar Grove, Ont.—to come and get the bees. Just for the novelty of the thing, Mr. Ramer fitted up a hive with some combs of honey, and cold as it was, scooped up the bees from among the crushed combs, and took them home with him. Whether they will survive the winter or not, is not for me to say.

Meeting Mr. Ramer a few days after he had the bees, I inquired as to the condition of the tree, and amount of brood and honey the bees had. He said that there was sufficient honey to have wintered them; and as for brood, it was there in all stages, from eggs to lots of hatching bees. As a low estimate he would say that there was brood to at least the equivalent of 12 inches square. The tree at the part where the bees had their stores, was a shell of about 4 inches sound wood, with about the same thickness of rotten wood inside of that. Readers will bear in mind the extreme conditions these bees were subjected to. Forty feet from the ground, no flight from November till time the tree was cut, and on at least three different cold spells, the temperature had been 25 degrees below zero.

In every case I have heard of, where through accident or otherwise, a colony has had the brood-nest exposed to view during any of the winter months, every time brood has been present, and I firmly believe that the colony with *no brood* during these months, is the exception rather than the rule. This, of course, refers to ordinary colonies of bees—quite weak colonies we would reasonably assume would be unable to care for much brood in cold weather. But as we have had no experience to prove the matter, for aught I know, even very weak colonies may have *some* brood.

Caucasian Bees and Punics.

In the same issue of the American Bee-Keeper already referred too, appears a good photograph, of *our own* J. B. Hall—a man whose opinions are second to none in America, as regards sound judgment in things apicultural. His estimate of the Caucasian bees has been well known to the most of us for some years, and it now seems that Mr. Hall has been testing the Punics—a race much lauded by a few in "Merrie England." Their qualities as found by Mr. Hall are, in a nutshell, something like this—very gentle, great propolizers, rear both workers and drones right into October, thus using up all their stores; and they are great swarmers. They also excell in the matter of building queen-cells, Mr. Hall and his assistant having cut out of one colony, 179 perfect cells, to say nothing of many others just started.

Any one breeding Punic queens for sale, certainly would not have to dip any artificial cell-cups.

"Fall Dwindling" of Bees.

Morlep Pettit wrote me recently, and among other things he refers to what I have said relative to our bees going into winter quarters last fall with abnormally small clusters. He says that the same things were true in his apiaries, and makes a guess that the peculiar fall weather was accountable, causing a sort of "fall dwindling."

As a possible remedy he suggests that the storm-door as used on the Holtermann hive, be used with an entrance on *top* of the door instead of the bottom during the fall season, as this arrangement would keep out the wind and light. The device would serve that purpose all right, the only objectionable feature that I see being that it might discourage a flight on a suitable day in the late fall if the apiarist should not happen to be on hand.

Mr. Pettit also endorses my view on the question of sugar syrup, and incidentally remarks that his bees have all buckwheat stores this winter, and although they are in a perfect cellar yet quite a few show slight signs of dysent-

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ery. As regards the small clusters spoken of, we trust Mr. Pettit's experience will be in line with ours, as present conditions seem to indicate that the bees have been none the worse for smaller populations than usual, of which, more anon.

Errata.

On page 75, there is a little "mix-up" in that comment about the keeping qualities of honey-vingar. As it reads, the statement referred too, makes it appear as though Mr. Dadant was the author of it, whereas C. W. Dayton, of California, is the "writer" referred too. Also, on page 75, 4th line from the top of the 3rd column, read "eulogistic terms" in place of "egotistic terms."

Co-operation Among Bee-Keepers.

At the last meeting of the Ontario Bee-Keepers' Association considerable discussion took place on the subject of co-operation, and a committee was appointed to look into the matter and report at next annual meeting.

The "Farmer's Advocate"—one of the leading agricultural papers of Canada—has been inviting discussion along that line of thought, and in the March 5th issue, Mr. Chrysler, of Chatham, an enthusiastic "co-operationer", replies to some objections as seen by Mr. G. A. Deadnan in a previous article.

Mr. Chrysler thinks the present system is liked by the buyers, and "the more names of producers they can obtain who have honey for sale, and deal with them in a private way, the better they like it."

The plan as outlined by Mr. Chrysler for the formation and working of a co-operative society is as follows:

"Form an association with sufficient capital to establish suitable quarters for storage, liquefying and putting honey in suitable packages for the retail trade. Make the shares of the company at $25 each, and no person to have the privilege of owning more than 10 shares, or $250. The company to have a president, vice-president, and a sufficient number of directors; a manager, and one or more salesmen, to be employed by the directors, and to be paid a certain percentage of the business done as a salary, to be under bonds, and to be responsible to the directors for all moneys and collections connected with their duties. The proceeds, after all expenses are paid, to be divided among the members, according to amount and grade of honey contributed. To facilitate matters in raising the necessary capital, bee-keepers may give their notes for the amount of stock they wish to subscribe, and the amount deducted from the net proceeds of their honey. These notes the Association can use at the bank, which will advance the necessary capital. More than one place for so collecting the honey may become necessary, as the membership and conveniences demand. It would become possible to pay in cash a certain portion of the value of any bee-keeper's honey, any time after delivery."

Personally, I believe the principle of co-operation is sound and just, but notwithstanding the fact that a few years ago, the writer was quite enthusiastic over the matter, at present I frankly admit that as things are just now, I do not believe the bee-keeping fraternity are ready to give the united support so necessary to insure the success of the plan as outlined by Mr. Chrysler.

Making of Honey-Vinegar

BY C. P. DADANT.

I have lately received two enquiries concerning honey-vinegar, the first one from a bee-keeper of New York State who asks why his honey-water did not turn to vinegar, the other from the editor of the Bee-Keeper's Review, who asks me what I know about the keeping qualities of honey-vinegar. I must acknowledge that this last question has never been raised in my mind, and it caused me to make investigations, of which I will give the substance.

First, about the making of honey-vinegar. What is there to hinder honey-water from changing to vinegar?

I have stated several times in previous articles that the change from saccharine matter into acetic acid must necessarily pass through the alcoholic form first. But an alcoholic fermentation is not the only fermentation that may take place in honey-water or fruit-juices. A putrid fermentation, may under certain circumstances, develop in honey-water as well as in fruits, if the alcoholic fermentation is delayed or prevented. Have you ever heard it said, by some old farmer, that rotten apples made good cider? There are indeed people who truly believe that such is the case. Yet, neither rotten apples, decayed grapes, nor fetid honey-water can even develop an alcoholic fermentation. In the making of high grades of wine in old Europe, the damaged or decayed grapes are carefully removed.

To make alcohol which will be later changed to vinegar, it takes saccharine matter. The scientists tell us that the sugar of fruits is entirely destroyed by putrid fermentation. We hardly need to be told this, for every one knows who has tasted spoiled fruit, that instead of a sweet flavor, nothing but bitterness remains. Even although apples and grapes contain the germs that cause alcoholic fermentation, these fruits will only rot, unless placed in conditions which help develop the proper germs. A pile of apples under a tree will rot, the same num- of fruits crushed and placed in a receptable which will keep warmth and exclude the air sufficiently will develop alcoholic fermentation which will almost immediately afterwards become acetic if the air is not entirely excluded. Honey-water, diluted so that the sweet it contains is sufficient to preserve it, and kept in a cool place, may develop a certain amount of putrid fermentation.

We are told that all sorts of germs are brought into the hive with the honey gathered in the flowers. So honey, unripe or diluted, is subject to all sorts of possibilities. That is why many people heat it before trying to use it either for mead or vinegar. This heating destroys all germs of fermentation, and to secure the alcoholic ferment, it is then necessary to add some yeast. But it is also necessary to keep the liquid at a temperature sufficiently high to permit the development of the germs of fermentation, and not high enough to kill those germs.

It is generally admitted that a heat of 70 to 90 degrees is necessary to keep up fermentation, and that a heat of 130 and upwards will destroy the germs. although some bacteria live at a much higher temperature.

When the alcoholic fermentation is well under way, the acetic fermentation may begin at any time, but it takes a much greater quantity of air for the latter than for the former. The alcoholic fermentation develops a large amount of carbonic acid, which for the time being will prevent all other fermentation. The deadly gas escaping from a vat of fermenting grape-juice, which will extinguish a candle brought near the surface—will exclude acetic fermentation until this gas has escaped. But the vineyardist knows well that if he does not exclude the air, there soon comes a vinegar odor from his fermenting vats, unless the amount of sugar is so great that either it or the alcohol formed in large amount will preclude the development of the acetic germ. So the very thing the wine-maker avoids is what the vinegar-maker needs. While the one hastens to bung up his barrels, keeping them well filled with as little air space as possible, the vinegar-maker devises the most feasible ways to expose the fermented liquid to the oxydizing action of the air.

Four things are therefore necessary in making vinegar:

1. A sufficient quantity of honey to permit of alcoholic fermentation. This fermentation is usually speedy, requiring but a very few days.

2. A sufficient amount of water. If there is too much saccharine matter, there will be but a very slow fermentation. From one to one and a half pounds of honey to the gallon is the most approved quantity.

3. A favorable temperature, from 70 to 90 degrees, Fahrenheit. The lower temperature gives a slow change, the higher a speedy one.

4. Air and ferment. The quantity of air needed for the first or alcoholic fer-

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mentation is limited, but some air is necessary as well as an escape for the gas which forms, during the chemical change which ensues. For the acetic fermentation, the more air the better, if the temperature is preserved.

Yeast, fruits or fruit-juices will furnish plenty of germs for both the alcoholic and the acetic fermentation. For the latter, if it should be slow to come, a little good vinegar or vinegar-mother will supply it. Fruit-juices, wine or cider, contain so much of the germs that a barrel of wine or cider left unchanged will be almost certain to turn to vinegar in a few weeks, if placed in a warm cellar. The only reason why so many people fail in securing the acetic fermentation for their honey-vinegar is that they do not give it enough opportunity to develop the alcoholic fermentation first, and most honey-vinegar will be found still sweet when already partly made. Pure alcohol mixed with water cannot make vinegar unless it contains some of the albuminous substances of vegetable juices on which the fermenting germs will feed.

There are cases where the alcoholic fermentation is induced, but no acetic fermentation can take place. It is when the liquid has been made very rich and has fermented until it contains 14 to 16 percent of alcohol and still retains some unfermented sweet. The quantity of alcohol mentioned is sufficient to arrest further fermentation. The alcohol dominates. We then have a liquid which much resembles Port or Madeira or rich California wines. This happens when three or more pounds of honey have been used. To make vinegar out of this requires thinning with water and adding acetic ferment, for such germs as may have existed in the liquid have been destroyed by the large quantity of alcohol produced.

After the alcoholic fermentation has taken place, it is not necessary that the temperature be kept constantly at the proper degree, in order to make good vinegar. But it must be remembered that in such case the changes will be delayed, and if the temperature is allowed to go below the freezing point, it is quite likely that more ferment will be needed in order to re-establish favorable conditions. The swiftest action may be secured by the slow trickling of the fermenting vinegar through the air. In some good vinegar-rooms of Europe, beech shavings, soaked in good vinegar, are used through which the forming vinegar is allowed to trickle, in contact with the oxygen of the air, and it is said that very strong vinegar is thus made in 48 hours, if the proper conditions are present.

A very limited quantity of honey in water, less than a pound to the gallon; a temperature too low, say 65 or less; the absence of ferment—any or all of these conditions will prevent fermentation and the production of vinegar. In such conditions putrid fermentation of different kinds take place. Your honey-water will find itself in the position of apples allowed to rot, instead of going through the alcoholic and acetic changes which take place in normal conditions.

In my next I will consider the keeping qualities of honey-vinegar.

Hamilton, Ill.

Putting Comb Foundation in Frames, Etc.

BY DR. G. BOHRER.

On page 77, G. M. Doolittle uses the following language: "Do not be sidetracked by the one who tells you to wait about putting this foundation into the frames till just before the harvest." Such talk, he says, is all a myth. Please permit me to state that, to my certain knowledge, foundation put in frames any considerable length of time before it is given to the bees for their immediate use, will buckle, thus putting its surface in an uneven and wavy shape. To my mind it should be given to the bees with the surface as nearly perfectly true as possible. For I can not see how the bees are to draw out the cells equal in depth unless they finish up the comb with a wavy surface which is most certainly not desirable in comb where brood is to be reared.

As to the matter of putting foundation in sections for a time before giving it to the bees, I can see no objection, as it is not intended that brood should be reared in sections. I will say, however, that in cases where 1½-inch starters are put in frames to be used in the brood-nest, no harm is, I think, likely to result from putting them into the frames for an indefinite period before given to the bees. But as many use full sheets of foundation in frames for the brood-nest in order to secure both straight combs and the absence of drone-cells, the fact that full sheets will buckle if put in the frames long before they are used by the bees should not be lost sight of; and in the matter of having all supplies at hand and in perfect readiness for use when the time for their use comes, I agree fully with Mr. Doolittle.

More About a Plurality of Queens in One Colony.

Permit me to supplement Mr. Dadant's statements, on pages 14 and 15, concerning 2 or more queens living on terms of perfect peace in one colony, permanently. I will, however, digress a little by stating that I made the discovery that 2 queens do sometimes occupy the same brood-nest temporarily. And I was somewhat surprised, as I had never heard nor read of any such occurrences. Mr. Langstroth, in "The Hive and Honey-Bee," among others, made the impression upon my mind that by nature there existed a dislike, and an incompatibility amounting to an uncompromising hatred, between queen-bees. I had not, prior to the last 2 years, noticed that in each of two cases the one was the mother of the other. Last summer I opened a 2-story, 8-frame Langstroth hive, and found a beautiful young queen busily engaged in laying eggs. I suspected that it was about time for this colony to supersede its queen, as she was 2 years old. In fact, this suspicion was what led me to open the hive for the purpose of inspection, I lifted off the upper story and soon found the old queen also laying eggs, or at any rate I found many fresh eggs. This discovery was made during the flow of alfalfa honey. The two cases referred to led me to suspect that, as a general rule, 2 queens in one hive living peaceably together, meant mother and daughter, and the mother about to quit the stage of action.

While the height of a free flow of honey does not in any way put a colony in an abnormal condition, it does in a sense cause them to become oblivious of some things that often occur about them, the entire attention of the field-forces being directed almost entirely, if not entirely, to the one grand object of collecting honey from the sources to which nature has directed them for their subsistence. At such times a hive may be opened and left open for an indefinite length of time, without being attacked by robber-bees. Aside from this, persons may pass through the apiary without being molested by any of the bees, and the bee-keeper will, as a rule, be able to handle the bees without veil, gloves, or smoke.

Hence, as Mr. Dadant states, young bees or queens may be safely introduced. But for a plurality of queens to inhabit the same brood-chamber permanently is out of line with the natural laws governing honey-bees. And I will hazard the prediction that when two or more queens live on terms of perfect peace in the same colony, we will be able to shear a hog and secure a fine grade of wool; Dr. Miller's hair will become as kinky as that of an African, Mr. Whitney's will turn jet black, while my own will return to its original sandy or red color, and Mr. Dadant will discard his big hive with deep frames, the Langstroth standard frame will become a thing of the past, and all will agree that the shallowest frames, now urged by a few, are if anything rather too deep. But aside from this, they will be regarded as the stuff for all bee-keepers to use. And aside from this, thin, trashy bottom-boards will be regarded as very much preferable to the solid bottom made out of lumber about one inch thick. But to be candid, I can see little if any advantage in more than one queen in one colony. During early spring, one queen, if a good one, will lay all the eggs that her colony can keep warm and develop into mature bees.

A Mistake Historical Corrected.

On page 32 of the Annual Report of the National Bee-Keepers' Association, Mr. Hilton, in his address in response to the address of welcome at Harrisburg, Pa., states that Mr. Quinby was the honorary president of the North American Bee-Keepers' Convention, which is a mistake. The convention in question was held at Indianapolis, Ind. Mr. Quinby was not there. Mr. A. F. Moon, of Paw Paw, Mich., was its president. A few weeks later, what was known as the American Bee-Keepers' Convention was held at Cincinnati, Ohio. Mr. H. A. King, of American bee-hive fame, served as its president. Many of the members of the North American Bee-Keepers' Convention were in attendance. By agreement, the members of the two conventions arranged to meet in Cleveland, Ohio, about one year later, where the two conventions were united, thereby organizing what is now known as the National Bee-Keepers' Association. Mr. Quinby acted as President, while the two bodies adopted articles

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of agreement which made them one.

Mr. Langstroth was at the Cincinnati convention, but was not at any time in the chair as presiding officer. He, however, did participate in the discussion of some of the questions that came before the convention. This was soon after the demise of his son, James T. Langstroth, on account of which he felt very much depressed. This was the last time I met him personally. He was not at the Cleveland convention. And I never met Mr. Quinby after the Cleveland convention. I do not now remember who was chosen as president for the following year, but it seems to me that Mr. Quinby was the man. The next annual convention was held at Indianapolis, Ind., and Rev. W. F. Clarke, of Guelph, Ont., presided in the absence of the president.

Lyons, Kans.

Apiarian Rights of Priority

BY DR. C. C. MILLER.

N. P. Anderson, page 81, expresses the kindly hope that I may not lose my location, yet this hind end of his article is hardly in keeping with the front end which leans in the direction of making me feel I have no solid claim to an abiding place.

Mr. Anderson, let's sit down and talk over some of your points in a friendly manner.

"Why should a bee-keeper enjoy special privileges not extended to other people?" Please tell me why a bee-keeper should be denied privileges extended to the cattle-raiser, wheat-raiser, and in fact to every other who, like the bee-keeper, depends upon having a certain portion of the soil from which to obtain his support. Don't you see that the bee-keeper is on a parallel with these men, and not with the merchant?

That "competition." Yes, the up-to-date bee-keeper coming in may—possibly—drive out "the farmer with his 25 or 50 boxes of bees (some of them rotten with foul brood, etc.);" but there's another side to that story. Suppose that same farmer comes in, foul brood and all, and sits down beside the up-to-date bee-keeper. Do you suppose Mr. Up-to-date would thrive on that sort of "competition"?

"The right of priority as we have it at present, is all the protection any up-to-date bee-keeper needs." Then you do hold that priority gives a man a "right." Thanks, for agreeing that I have any kind of a right to my location. The farmer who pays good money for 160 acres of land has a right to that land, but what good is that to him if there is no law the prevent a stronger man from coming along and taking away his right? Now, seeing you agree that I have a right to my location, would you not be obliging enough to allow me a law to protect me in that right?

As a matter a little aside from the main question, you touch upon a point of intense interest to me. You say an up-to-date bee-keeper "will keep at *all* times *all* the bees his locality will support." Now he couldn't do that unless he would *know* just how many; and you wouldn't make such a statement unless you were positive about his obtaining that knowledge. I'm so anxious to obtain the knowledge that you possess, that I'm willing to be humble enough to expose my abject ignorance, and confess to you that I don't anywhere nearly know just how many bees my locality will support, although I've been trying all these years to find out. I'm sure others will be glad to learn. Please do me the very great favor to send to the American Bee Journal full instructions how to proceed to find out. I shall watch with the greatest interest to see the article. And while you are about it, would you mind telling us just how many bees you keep all the time? For then, you being an up-to-date bee-keeper, we would know just how many bees your locality will support.

Allow me to say that if you are depending entirely on bees for your bread and butter, of if you ever get into that position, and some one locates close beside you with a few colonies rotten with foul brood—well, I promise you my hearty sympathy.

Marengo, Ill.

Caring for Empty Combs and Ridding Them of Moth-Larvae

BY G. C. GREINER.

From the occasional inquiry how best to protect combs and sections against the ravages of the wax-miller and its progeny, it would seem that more or less trouble is encountered by not a few of the bee-keeping fraternity. In offering the following hints on this subject, I do not claim that my ways are better than anybody else's, but the fact that I have had no occasion to sulphur or fumigate combs of any kind, or sections either, for 10 years or more, is sufficient guarantee that there must be a little something in management. My success in having so little trouble, while others are annoyed, is due mainly to the persistent and untiring application of the old saying, "An ounce of prevention is better than one pound of cure."

When spring opens, we often have quite a number of depopulated hives on hand, which contain sets of desirable brood-combs too valuable to be wasted or destroyed by the wax-larvæ. As soon as we discover the demise of a colony, the first step should be to clean the hive, sweeping off combs and removing all filth and rubbish. At the same time one of the combs should be taken out and the rest spaced at equal distances to take up the vacancy. Larvæ are not very apt to work in spread combs.

Then the hive-entrances should be enlarged to the full width of the hive, and if the hive has both a flat and a telescope cover, the former should be removed. This gives the combs air, and in some degree light—both being distasteful to the comb-destroyers—and at the same time allows the bees free access to the inside of the hive, where they act as a sort of police force in protecting the combs.

With the advancing season, when Nature attracts and draws the bees to the field, spiders generally find these hives to be desirable hunting-grounds. They spin their webs at or near the entrances, which is the best protection of our combs Nature provides.

It is with many persons a perfect mania to kill everything in the line of insects and other useful creatures of the lower animal life — snakes for instance — but I never kill a spider knowingly. They are, to use a common phrase, the best friend a bee-keeper has. If they become a nuisance in one place or another, as they do occasionally in the honey-house, I drive them away by sweeping down their webs.

Combs prepared as above stated, are comparatively safe from the inroads of the wax-miller. I have kept them in this way many times all summer without serious trouble. But our vigilance must not cease here, we have to keep our eyes on them all the time, and make regular examinations say once a week. This may seem like a tedious job, but it is not, although it is a persistent one. It is so easily and quickly done, that hundreds can be examined in a few minutes. All we have to do is to lift one end of the cover, and one glance will tell whether our interference is needed. If no webs are spun between the combs, the cover may at once be replaced, and the combs considered safe. But if they are connected by those fine, silky threads, immediate action must be taken, for we may be sure that moth-larvæ are destroying our combs.

Fortunately, this does not happen very often, but when it does, the next question is, How to rid the combs of these pests?

In former years I have spent quite a little time picking out worms with a nail, sharpened stick, piece of wire, or whatever came handy, the same as I read not long ago that some of our bee-keeping brothers advised doing. This is all right for the want of anything better, but late years I have used an automatic worm-destroyer in the shape of a flock of Plymouth Rock chickens, that beat hand-picking all out of existence. Whenever I have an infested comb, I simply lay it flat on the closely mowed lawn near the honey-house, and before I have time to straighten up, half a dozen or more of my chickens are pulling Mr. Larva out of the comb, and consider it a great treat.

By the time the one side is cleaned out, and that is done in a hurry, the larvae that were not in sight are frightened by the disturbance and try to escape on the underside, and when the comb is turned bottomside up, almost all the larvæ, that are not on the ground, are on the outside of the comb, and are in the chickens' stomachs before they know what has happened.

And how are chickens taught to perform this part of bee-keeping? The easiest and simplest thing in the world. As the season advances, and the time draws near when their service may be required, I sprinkle a handful of wheat on the ground where I wish to operate, and call them. The first time they may be a little slow in making their appearance, but a few will see what is

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wanted, begin to pick up and induce others to do likewise. The second time they come at the first call, and the third time they are waiting for me. This is about all the training they need, except that I sprinkle a little wheat on the first comb I offer them for investigation. Trying to pick the wheat from the bottom of cells, they run across some of the worms and after the first taste, no farther education is necessary. Every larva, large or small, is doomed to certain annihilation.

It is a great mistake, made by many, to take off honey in the evening and set the supers against the hives to give the bees a chance to go back to their hives. This is the most prolific source to stock up our sections with larvæ. Sections of honey should never be exposed in the evening or after dark, where those tiny little millers, (and large ones, too) can have access to them. They are just as liable to visit the supers in our shops and honey-houses as out-doors, and to guard against all possible trouble, sections should be kept covered as nearly air tight as possible, wherever they are stored. I remember, many years ago, a bee-keeping friend, at whose place we called, had a fine lot of white clover sections, as he supposed, which he offered us for sale. On examination we found the whole lot, consisting of several stacks of supers, 8 or 10 high, all matted together and alive with worms of all sizes. He had followed the above plan and was not aware of the resulting consequence until too late, for his honey was completely ruined.

In keeping my extracting combs so free from all attacks, I can hardly see where my ounce of prevention comes in. I use no extra precaution, except that I keep them covered up just before and after dark. When my last extracting is done, which is not later than about Sept. 1, in this locality, I set all combs outdoors, near the bee-yard, to let the bees clean them out. They remain here in stacks generally for several weeks, until I begin to prepare things for winter, when they are stored in the honey-house. During the first few days, while the bees are to work at them, I keep them uncovered in the daytime, but toward sundown they are all covered up. When they are moved in the honey-house, they are again snugly stacked and covered up, and that is the last I see of them until wanted the next season. With this treatment I have not had a larva in them for 10 years or more.

Outside of the combs spoken of, I aim to keep on hand a few dozen sets of combs as a reserve in case of need. They are generally a miscellaneous lot, consisting of brood-combs, extracting-combs, drone-combs, perhaps some frames of foundation, etc. I keep these on open shelves, made of 2-inch slats at one end of the honey-house. Being exposed to the light and always spaced, or aimed to be, at proper distances, they are never molested, unless some of them get accidentally moved close together. Of course, I serve these combs the same as I do those out-doors, glance over them occasionally. If no webs are in sight, no trouble need be anticipated.

Getting Ready for Surplus

BY G. M. DOOLITTLE.

A correspondent wishes me to tell the readers of the American Bee Journal how I get the bees ready for the surplus honey harvest, and also how I fix my supers of sections, and when they should be put on the hives, all of which is something that every bee-keeper should know about, if success is to be obtained in apiculture.

The only thing which is likely to baffle our efforts, is the getting of the bees in readiness for the harvest, if that harvest is to come from white clover, for this plant blooms so early in the season that it is often hard work for the bees to be gotten in readiness to secure the best results from the bloom. Some of our best bee-keepers advocate feeding the bees a little every day to bring them up to "storing condition" in time for the white clover; a few even going so far as to recommend extracting all the honey from the combs and then feeding it back again, after it is diluted with water, seeming to believe that a gain in brood can be obtained in this way sufficient to pay for all the extra work this makes.

Now, during the 40 years of my bee-keeping life, I have tried all of these various ways of feeding, and for a few years I thought it was just the thing to do, but after a trial for several years of feeding a part of the colonies and leaving others without feeding, but allowing them enough honey in their combs so that they would feel rich in stores all the time—rich beyond feeling any need of scrimping—I have found that the latter come out equally well with those fed every day (some years even better), with all the work and fussing and feeders, required for the feeding, done away with.

It is no small job to feed 100 colonies of bees for 6 weeks, no matter how handy we may have things, nor how expeditious we are able to work. It is far easier to set combs of honey aside during the honey harvest of the year before, and then give these to the bees, as they need, all at one time in the spring, than it is to be feeding every day for the necessary time required to bring the bees up in good condition for the harvest, for, after once beginning to feed, it is necessary to keep it up till the flow commences, otherwise we lose very much of what we have gained by starting feeding.

My plan is to know, just as soon as possible after spring opens, that all colonies have stores enough to last them till the willows and hard maples bloom, at which time they generally obtain enough honey to supply their wants for a week or so, at the end of which, they are given enough stores to last them through till clover blooms, giving this last by way of an extra story placed over the brood-chamber, with a queen-excluder between. This not only insures them plenty of stores, but provides room for the storing of any surplus which may perchance come from fruit bloom, and also gets the bees in the habit of entering the upper story or super so that when the super of sections is put on they will enter them without hesitation, and at the same time keeps them from contracting the swarming fever, which they are often liable to do, where they are allowed only the brood-chamber of the hive up to the time the sections are put on.

As to when the supers of sections should be put on the hive, I have experimented very largely along this line, and I now wait till the clover bloom opens; and not only this, but till I know that the bees are securing a little more than a living from it; for it is useless to put on the sections until there is something coming from the fields to be stored in them; yes, often much worse than useless, for if the bees have nothing to do, they will often tear or gnaw the foundation starters which you have put in the sections, till they fall down or are past being of the good service for which they are intended.

With me, it is very easy telling on any pleasant day, by walking amongst the hives, whether the bees are bringing in little or much nectar; but to the one who cannot thus tell, it is best to open the hives of some colony, and as soon as you see new honey sparkling along the tops of the combs, it is time for the sections. And, if you are an enterprising apairist, you will have had the supers of sections all in readiness for the bees long before this, so that when this first new honey is coming in you can hustle the supers all on in one day.

Let me urge on every one, not to wait about this preparation of the supers till they know for certain that a harvest is to be obtained, for, if this is so, the best part of the harvest will often be past before the supers are gotten on the last hives. *Always* have the "dish right side up to catch the honey," is a proverb every apiarist should paste in his or her hat. A few days' neglect of this will often turn what might be a splendid success into an almost entire failure.

So far, everything that has been done is perfectly applicable to the production of either extracted or section honey; but believing that there is more profit in comb honey in sections than there is in extracted honey, I will tell how I fix my supers of sections.

My sections are all made and gotten ready during the winter. After making, each section is either filled with extra-thin section foundation, has a starter of this foundation put in it, or else a starter of nice white comb attached to the top of it. No one should try to produce section honey without putting a starter of some kind in the top of each section to guide the bees so that the combs will be built straight. If comb is used, this should be cut in pieces of a triangular shape, each of the three sides being from 1½ to 2 inches long.

As quite a few bee-keepers think it pays to insert thin foundation, fastened in frames, in hives 24 to 48 hours for the bees to draw out the cells into comb before using the foundation for starters, they claiming that by so doing the bees are gotten to work immediately in the sections, I will tell how I fasten these starters of comb in the sections:

Procure a piece of band-iron about 2¼ to 2½ inches wide, heating the same

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in the stove, or over a blue-flame oil heater, when it is to be lightly laid on the under side of the top-bar of the section (the section should now be bottom side up,) when with the other hand take one of the triagular pieces of comb, touch it to the iron, when the iron is quickly withdrawn, and the piece of comb immediately set firmly on the section. Now turn the section over and put it in the super, when you will have a nice and enticing guide or starter for the bees to commence work upon, which will not fall or pull off. There is no question but that the bees will take to such a starter much more readily than they will to one of foundation, but whether it will pay to put the foundation in colonies to have it drawn out into comb, and do all the extra work required so that we may have starters of comb instead of foundation, is something that I am not just yet free to decide upon. However, I do think it pays to save all pieces of clean white comb we may chance to find built where we do not wish it, and use these for cutting up in this way. If you prefer to use comb foundation instead of this comb, let the starter be a triangle, having the length of sides 3 to 4 inches.

Very many of our best apiarists prefer to fill the section completely with foundation, except a quarter of an inch or so at the bottom. Where comb foundation is used, be sure to use only the very thinnest, which should measure not less than 10 square feet to the pound. If thicker than this, the bees will not always properly thin it, and in that case your customers are quite likely to complain of the surplus wax in the comb.

Foundation is best put on with a foundation fastener, many of which can be had of any dealer in bee-keepers' supplies; but if you do not have one of these fasteners, very fair work can be done with the band iron of about the width of the sections.

Having the starters all in the sections, they are now to be arranged in the supers. If possible, the center tier of sections in the super should consist of those which were filled partly or quite full of comb, left over from the season before. If you have these, the bees will go into the sections and be at work much sooner than when such are not used.

A good many bee-keepers complain of having too many partly-filled sections in the fall, but, as a rule, I do not have as many as I wish, for I consider them a good investment as above; in fact, better than money in the bank. Having the center tier of such partly-filled sections, place on either side those with starters, till you have the super filled, when you are ready to put them on the hives at any time the bees are ready.

Borodino, N. Y.

By W. A. PRYAL, Alden Station, Oakland, Calif.

A Promising Harvest This Year.

It is now the first of March and the rainfall has been all that could be desired in this portion of the State. I understand that the southern portion of the State has been fairly well treated in the same respect; the northern section of California seldom fails of getting a good wetting annually; this year it may run over the average. Of course, all kinds of agricultural crops will be good; what the fruit crop will be will depend upon whether there are heavy frosts during the first couple of weeks this month—the more tender kinds of fruit-blossoms may be nipped by cold weather. What the honey-crop will be will depend much upon the condition of the weather during the period the flowers that secrete nectar are in blossom. So the fruit-grower and the apiarist is never "out of the woods" until the crop is pretty well gathered.

Like Foul Brood.

Mike Murphy was quite a gardener; he had his "praties" and other "garden sass," all of which grew in greater luxuriance than was to be seen anywhere around. He had a few colonies of bees which gave the family all the honey they desired. One day Prof. Buggman, of the entomological department of the university of the State he lived in (remember that this is not a story upon any of the bugologists hereabouts), came over to see if there were any cabbage-flies upon Mike's cauliflowers. The gardener took the professor to the patch, which was close to the bees. An inspection was at once begun, but all of a sudden, the latter exclaimed:

"Mr. Murphy, your bees have foul brood."

"Go 'way wid ye, ye don't know what yer talkin about," indignantly retorted Mike.

"Sure, Mike, your bees have the disease, and that the worst I ever knew. It is right in that hive there."

And Mr. Murphy yanked off the cover of the colony indicated, and said, "Now we shall see if my pets are down wid the dhread malajy."

But the professor did not stop to investigate the colony, for a score of bees from the hive flew at him, evidently to resent the insult innocently aimed at them by the savant. In his haste to beat a retreat the good professor stumbled over a freshly dumped pile of muckish manure that was not 5 feet from where he was investigating the little green flies on the cauliflowers. When he pulled himself out of the muck Mike triumphantly exclaimed, "Ye dirty spalpeen, I guess it is yerself that is afther having foul brood and not the bays, for sure ye are the foulest looking sight I have been afther seeing in all me born days."

And the professor admitted he was pretty foul, and it was the manure that was malvoilent and not the bees. With that Mike apologized for calling the savant a "dirty spalpeen."

Scrapings and Cappings Mean Money.

Too often the bee-man loses sight of the small things. I have seen him neglect the cappings until they were all destroyed and unfit to render into wax. So, also, he scrapes the hives and frames and lets the wax fall upon the ground to be lost. It pays to go through the hives during the late winter months and remove all unnecessary bits of comb from frames and the sides of the hive. Even where the bees have built the combs so that they are unnecessarily thick, it is a good plan to shave them down to a fair thickness. You might as well get the wax; it is often placed in the hive by the bees in unwanton liberality.

The Eucalyptus Again.

In years gone by I have from time to time referred to this tree as a honey-secreter and its great worth to our bee-keepers. Throughout California two or three varieties are quite common, especially *E. globulous*, or blue-gum, as it is commonly called. I have just received this year's Seed Bulletin from the Agricultural Experiment Station of the University of California.

As supplementary to what I have already written on this tree, I am going to copy the portion of the bulletin bearing upon the Eucalyptus, in full. It is as follows:

The growing interest in Eucalyptus planting is now keener and wider than in any previous year since this important genus was introduced from Australia over 50 years ago. This interest is inciting commercial propagators and our nurseries are therefore offering large collections of well-grown trees at prices which encourage forest and wood-lot planting. Aside from species thus available we have several growing at the University Forestry Station at Santa Monica from which seed has been gathered for this distribution to those who desire to grow species which usually do not enter into large plantings, viz.:

1. *Eucalyptus Botryoides* (*"Bastard mahogany"*).—An upright and spreading tree highly recommended by all the Australian writers, as one of their best timber trees, if it is grown where there is plenty of water. The first 14 months after the young grove was put on the Station Grounds at Santa Monica the average height was nearly 13 feet. It will stand a small amount of frost.

2. *Eucalyptus Citriodora* (*"Lemon scented gum"*).—Very ornamental, having lavender and cream colored deciduous bark, the leaves are long and narrow, the branches are pendent, giving the trees a weeping effect. The wood is claimed by the Australians to be valuable for wagon work. The average growth of this species is about 5 feet a year for the first 12, then the average is somewhat smaller. The leaves when crushed give off an aroma, from which the species is named.

3. *Eucalyptus Cornuta var. Lehmani.*—This variety is a dwarf, having very small, thick, dark-green leaves. The buds are borne in large irregular masses and the decidnous calyx caps are 4 and 5 inches in length. The flowers are of a dark-green color and are in bloom during the late fall. The wood is a light-brown

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in color, very hard and easily polished. This variety is a curiosity, capable of forming a good shade-tree if properly trained.

4. *Eucalyptus Decipiens.*—Of a dwarf growth at Santa Monica Station, but it blooms profusely during the late fall and early winter; the bloom is worked by large numbers of bees.

5. *Eucalyptus Diversicolor* ("*Karri gum*").—One of the tallest growing trees in Australia, producing a very valuable wood for wagon-work. This tree will stand frosts nearly as well as some of the better known and hardy species.

6. *Eucalyptus Eugeniodies.*—This stringy bark produces a fairly durable timber and one that can be used in building, although it is of slow growth. Its range is not definitely known.

7. *Eucalyptus Gunnii* ("*Tasmanian cedar gum*").—One of the hardiest gums in Australia. It attains a fair size in this country and has a fairly large range.

8. *Eucalyptus Leucoxylon* ("*Ironbark gum*").—An upright and rather rapid grower and the timber is very hard and durable. The trees are found growing in the southern part of the State. The white flowers are in bloom during the winter.

9. *Eucalyptus Melliodora*("*Yellow box-tree*").—Produces a wood valuable for wagon-work, etc. In contact with the soil it is very durable. This is one of the best bee-trees among the Eucalyptus and is in bloom all winter and early spring.

10. *Eucalyptus Piperita* ("*White stringy bark*").—An upright and much spreading growth. The wood is valuable for shingles and other building purposes, while the leaves are rich in volatile oil.

11. *Eucalyptus Punctata* ("*Leather-jacket*"). Produces a very hard, heavy and durable, dark brown wood. The flowers of this species are borne in great numbers during the fall months and are much sought by bees.

Eucalyptus seedlings are quite easily grown in boxes of light, sandy loam not disposed to bake or crack; cover the seed very lightly and then keep moist, but not wet, regulating the sunshine by a lath cover, or something of that sort, but do not exclude the air too much. Either sow very thinly, or sow thickly and then pick out seedling at greater distances in other boxes when they are about 2 inches high. Such little seedlings placed about two or three inches each way will grow in the boxes until about a foot high, and can then be put out in place, cutting with an old carving knife, so as to give each little tree a block of soil which the roots will hold together until set in its new place, or the roots may be dipped in soft mud to keep them from drying out. One soon gets the knack of growing these seedlings by experience, the main point being to have moisture enough and yet not too much, also to guard carefully against drying out while the seedling is very small.

Seed in small packets, 5c., postpaid, for each kind ordered.

Report of the New Jersey Convention

The New Jersey Bee-Keepers' Association met in annual session at the State House, Trenton, N. J., Jan. 11, 1908, at 10:30 a. m., with Pres. W. W. Case in the chair. The Secretary, J. D. Wanser, being absent, J. H. M. Cook was chosen Secretary *pro tem.* The minutes of the last meeting were read by Secretary Cook, and approved. The election of officers was postponed until the afternoon session.

BEES AND BLOSSOMS.

The first paper was by Prof. Case on "Bees and Blossoms." This was a well-prepared, scientific paper. Some of the important things he brought out were that plants that require the aid of bees and other insects in their cross-pollination bear brilliant-colored blossoms; while those plants that do not require pollination by bees and other insects, do not bear brilliant-colored blossoms. Mr. Case is well versed in botany and drew many illustrations to prove his proposition, with much comment on each illustration. Among his illustrations of brilliant-colored blossoms to attract bees, apples, pears, cherry, peach, buckwheat, clovers, strawberries, pumpkins, squashes, melons; among colorless blossoms he named grasses of all kinds, grains except buckwheat, corn, etc. The paper further showed how beneficial to the fruit, berry, and melon grower is the bee-keeper, but of especial benefit to the apple, peach, and pear grower, to fertilize the early blooms of those trees, because other insects are not usually bred in sufficient numbers so early in the season to pollinate properly such blossoms. Another important fact about bees as pollinators was that bees visit only one kind of bloom on each trip. This law of bee-life insures cross-pollination of the blossoms of each kind of plant. If bees visited promiscuously among all kinds of bloom, they would be much less valuable as pollinators, for blossoms are inert to pollen except from their own kind.

All these facts show how the fruit-grower should welcome the bee-keeper in his midst. Mr. Case also set forth the fact that bees never puncture fruit of any kind. Mr. Case made several colored drawings of different blossoms on an enlarged scale, to illustrate many of the facts brought out.

The paper was followed by approval, discussion, and questions. Some doubted that the bee visits only one kind of flower on a trip, but could give no evidence from direct observation. Another member said he had painted bees, and observed them much and carefully, and had always found it true. One member wanted to know how long each particular blossom was in condition to be pollinated. The reply was, "Only about 6 hours." This was thought to be a good point to show the necessity of having plenty of bees in the locality of the fruit-grower, for the weather is often very changeable during fruit-bloom. A member asked if the honeys from different plants might be detected by the presence of the pollen in it. The opinion prevailed that it might, but that it would require a high-power microscope, and much study of the pollen of different plants.

CARNIOLAN BEES.

The next paper was "A Season with the Carniolans." The author said his experience was limited with these bees, but that they had done so much better for him than his best Italians that he felt very partial to them. He had looked up their claims in apicultural literature, and corresponded with a number of experienced bee-keepers who keep this race as well as those who keep Italians. He gave a brief description of the drones, queens, and workers. He compared them with Italians chiefly. He maintained that they were better winterers, better breeders through the changing weather of the spring months, became strong for any early honey-flow, and were uniformly so. They did this during the very unfavorable spring of 1907. He could not find a single unfavorable report of Carniolans anywhere, while Italians in all Northern States wintered badly, and were slow in building up. He thought these qualities were fixed in this race for they have been bred for centuries in a country in most respects similar to our Northern States. He also found them gentler than Italians, that they capped their honey whiter, used but little propolis, and were almost free from disease in an exceedingly foul-broody locality.

The paper was followed by discussions and questions. One wanted to know why the honey was whiter in the comb, and it was explained that they do not fill the cells quite so full of honey, so that it did not touch the capping.

Some had tried the Carniolans, but objected to them because they swarmed so much, and wanted to know the management. Mr. Hann replied that they should be given all the room the queen will occupy in the way of empty comb up till the opening of the clover flow, and then shake all out on full sheets of foundation on the old stand, giving surplus room at once. Place the brood in weaker colonies or in nuclei, and treat that the same way in a week. Treated in this way they gave more comb honey than Italians, and did not swarm.

At 1:30 p. m. came a business session. The following officers were elected for the coming year: President, W. W. Case; Vice-Presidents, J. H. M. Cook, and Albert G. Hann; Secretary and Treasurer, Geo. N. Wanser, of Cranford. Mr. J. H. M. Cook was elected to represent the New Jersey Bee-Keepers' Association at the next meeting of the State Board of Agriculture, and to report on its condition.

FUTURE OF THE HONEY BUSINESS

The next was a talk on "The Future of the Honey-Business," by J. H. M. Cook. He began by telling how bees and honey had been known through all history, and how honey had been known through the same period as a delicious and luxurious article of food. Then he gleaned briefly over the investigations by naturalists beginning with Swammerdam in the natural history of the honey-bee and the economy of the hive. He referred to the practical handling of bees for honey, beginning with the greatest invention in all apiculture—the loose-

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hanging frame invented by the great Langstroth. He briefly reviewed the many improvements that had been made in bee-fixtures of all kinds during the last 50 years, and how the consumption of honey and its demand had increased. He said that people were being educated all the time to use more honey, and one means in particular as fostering this, he thought, was the popularization of the bee as a means of nature study.

He said, "We know of no way to judge the future but by the past," and inferred that honey would continue to be in growing demand in the future as an article of food. He thought it would hardly be considered a necessity like bread or potatoes, but always a luxury; but even this fact was for the good of the business. He said that there was not so much cutting of prices in luxuries as in necessities, and that people were more willing to pay a good price for luxuries than necessities. All thought it was a good talk.

WINTERING AND FEEDING BEES.

The next was a general discussion by all present, on the wintering problem. One member had recently bought a number of colonies with but little honey in the hive, and he wanted to know how to winter bees with no honey in the hive. Another member answered quickly, "Put them in cold storage."

The next question was how to feed bees in winter when necessary. Some seemed to think "Good" candy all right, but that it was an awful job to make if much feeding was to be done. Another had tried it and said it generally melted more or less and daubed up the bees and hives, and often ran down among the bees, killing the colonies. Another member advised using no honey at all in sugar, but put just enough water in it to get it into a cake nicely, and put the cakes where they will dry thoroughly, and then put on top of the frames, cover nicely, and that was all.

A German member said he had had considerable experience with this method, and always with perfect results. He put enough loaf sugar in each colony that needed feeding, covered it up, and that was all there was to it. He said the moisture from the colony was sufficient to liquefy it as fast as needed, and that bees thus treated wintered perfectly. All agreed it was new, but that it was the easiest of all methods, and thought they would try it.

At 4 p. m. an adjournment was taken till the next meeting, which would be called by the Executive Committee. All felt much profited and instructed.

ALBERT G. HANN.

Report of the Chicago-Northwestern Bee-Keepers' Convention.

(Continued from page 83.)

HIVE-LIFTING DEVICES.

"Would a hive-lifting device be of use in the apiary?"

There were 2 affirmative answers, and 12 negative.

WINTERING NUCLEI IN CELLAR.

"How would you winter a nucleus of bees if the cellar were too damp."

Mr. Wilcox—Make it dry enough.

Mr. Taylor—Make a queen-excluding honey-board and set it on top of a strong colony.

HONEY-HOUSE FOR 50 COLONIES.

"What size honey-house is necessary for 50 colonies running for comb honey, there being no other buildings to store things in?"

Mr. Taylor—If he wants to store empty frames, etc., and room to prepare honey for market; and if he wants it for honey only, are two different things. About 15 feet square is large enough for honey.

Mr. Wilcox—16x24x12 feet high for storing empty frames, etc., and preparing honey for market. 12x16x7 feet high, if for honey only.

"What would it cost to build?"

Mr. Wilcox—$250.

"Has anybody had experience with tar paper over a frame house?"

Mr. Dadant—I had experience with a sort of felt, and very soon replaced it with metal. We used corrugated iron for cheap roofing. It is fire-proof, clean, and does not rust readily. I have had some for 7 or 8 years. It costs less than shingles.

Dr. Miller—My shop is covered with a sort of felt. I believe it is good. I would put on this roofing instead of shingles.

Mr. Kimmey—I have had experience with prepared roofing and corrugated iron. I put up a building 48x50x24 feet. I put on corrugated iron a year ago last March. Last January it was all rusted out, and I had to put new roofing on. There are different kinds of both. Some stand well and some don't. It depends upon the quality. As to felt roofing I suppose he means any roofing material. I have a building 48x16 feet. I put on roofing paper 8 years ago, and it is just as good now as it was then. There are different kinds on the market.

Mr. Fluegge—My plan was not to cover a part of the building with roofing, but to build the building itself with tar paper or felt roofing. Build the frame and then put it on in 4-inch strips. Cover this with wire-netting and then cover with roofing. What is the experience of bee-keepers on it? Is it worth having? It would be cheaper than lumber.

Mr. Holbrook—In South Dakota there are many, many tar-paper buildings. Tar-paper will affect the taste of honey.

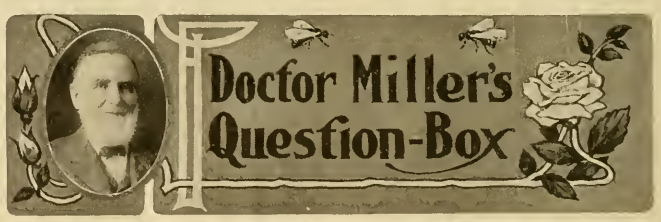
Mr. Dadant—I have tried tar-paper. I put sand on it. I had it 3 years, then all of a sudden it leaked through, and it didn't take long for it to go. I have had corrugated iron since 1896. It is not near a smoke-stack with coal soot flying on it. The smoke of the coal rots it very fast. You, however, run no risk because you don't need to burn coal. Put the corrugated iron over the tar-paper. The first that I put on I galvanized all over. There was no change in it. I don't nail it much I covered my barn with corrugated iron, putting in 3 nails at the upper end of the sheet and 3 or 4 at the bottom; put them on top of the corrugation, and don't set them in too deep. There is no danger of rusting, and no danger of fire.

Mr. Flugge—Suppose the building were built of that for walls instead of wood, would it be dust-proof for a honey-house?

Mr. Dadant—There would be no dust if put up right.

The convention adjourned until 9:30 a. m. the next day.

(Continued next month)



Send Questions either to the office of the American Bee Journal, or to DR. C. C. MILLER, Marengo, Ill.
Dr. Miller does *not* answer Questions by mail.

Changing Bees from Hive to Hive.

How often do you change a colony of bees from one hive to the other? SUBSCRIBER.

ANSWER.—Never, unless there be some special reason for it. A colony may be changed when it is desired to use some different hive, or when its hive is worn out; otherwise it should remain year after year in the same hive.

Wintering Bees in the Mountains.

Here in the Alleghany Mountains we have pretty cold weather some seasons. What would you recommend? I have no cellar, and could not make one very well. The double-walled chaff-hives are too expensive. WEST VIRGINIA.

ANSWER.—First thing I'd do, I'd find out how others near by wintered successfully without cellars. But no farther north than West Virginia there ought to be no trouble in wintering in single-walled hives with some kind of protection about them, if it's nothing more than corn-stalks on all sides but the front. The old-fashioned shed, with hay or straw packed over, between, and back of hives, ought to work pretty well.

Deep Hive-Cover—Comb and Extracted Honey from Same Super.

1. Do you think that the 11-inch hive-cover will pay for its extra cost over the ordinary flat cover?

2. What is your opinion of the flat cover, and using paper for spring protection? If the latter, which would you use—tar-felt (black), or white building paper? My latitude is 43½ north.

3. If I use extracting frames in place of outside row of sections with fence separators between them, will the bees blacken the cappings of the outside row of sections when the combs become old and black in the extracting frames? or, in other words, what do you think of the Townsend plan of comb and extracted honey in the same super? MICHIGAN.

ANSWERS.—1. I don't understand what you mean by an 11-inch cover, but if you mean a

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double cover with an air-space, I think it well worth the difference in cost. It is cooler in the hot sun, and warmer when it is cold.

2. Testimony is so conflicting that I have no fixed opinion. Of those who like such covering, some say black, some say light-colored.

3. Mr. Townsend uses only light combs in supers, and now uses only one frame at each side. If dark combs are in a super you may count on the sections being darkened. In the hands of Mr. Townsend the plan is a success. Whether others would do as well with it is doubtful.

Bottom-Board Depth—Iron Hive Covers.

1. What is the best depth for a bottom-board for out-door wintering of bees?

2. Would galvanized iron covers be so hot in summer as to drive the bees out of the super?

3. Would a super-cover or escape-board placed over frames with a ¼-inch space between keep bees warm and dry in winter, or will dry packing be better? MICHIGAN.

ANSWERS.—1. My bottom-boards are 2 inches deep, and I wouldn't want them less for cellar or outdoors.

2. Yes, if nothing but the iron over them and out in the sun. A board, then a space, and then the iron, would be all right.

3. Likely the packing would be better.

Lumber for Hives—Foundation Fasteners—Buying Nuclei.

1. Is cottonwood lumber good for bee-hives? Is basswood good?

2. How much buckwheat do I have to sow to the acre? Is it better than clover?

3. Which is the best foundation fastener, the Daisy or the Dewey?

4. Which is the best way to buy bees and queens — in 4-frame nuclei with Langstroth frames, or from a queen-breeder? IOWA.

ANSWERS.—1. Both are bad lumber for hives.

2. On good land 2 pecks. On poor land 3 pecks. Buckwheat honey generally sells for considerably less than clover.

3. I have no experience with the Dewey. The Daisy is good.

4. I'm not sure I understand the question. If you can buy from some bee-keeper near at hand it may be better than to send some distance to a queen-breeder, as express rates are high.

Transferring Bees from Frame Hives.

How do you transfer a colony of bees from one frame-hive to another? ILLINOIS.

ANSWER.—That depends. If the frames are of the same size, all you have to do is to lift the frames from one and put them in the other. If, however, you change from a larger to a smaller frame, cut the comb out of your larger frame, lay the smaller frame over the comb, mark with a knife where it comes, lift off the frame, and cut the comb so it will fit a little snugly in the frame. Take a board as large or larger than the frame, lay on it a number of strings, lay the comb over, and crowd the frame over it. Now tie your strings, raise the board, comb and all together, so the comb will not tend to fall out of the frame, take away the board, and hang your frame in the hive. If you change from a shallower to a deeper frame, then you must change the comb from horizontal to vertical, cut off the surplus, and then fill in the vacancy with another piece.

Feeding for Increase—Feeding Granulated Comb Honey.

1. Having plenty of honey to feed, how can I increase and have all colonies strong in July?

2. Should granulated comb honey be melted and fed to bees, or would it do to uncap and put the frames in the hive? NEVADA.

ANSWERS.—1. First encourage all colonies reasonably strong to become very strong by giving combs of honey wherever room can be found for them, only look out not to crowd the queen. Then from the very strong, brood can be taken to strengthen others. If a colony is very weak, take from it one or two frames containing more or less unsealed brood and give in exchange brood nearly ready to emerge. Keep all the time giving combs of honey wherever there is a chance for it. The best plan to increase depends a good deal upon your experience, conditions, etc. One plan is to put all but one of the poorest brood-combs in a second story a little before the beginning of your July flow, leaving the queen in the lower story with that one comb and frames of foundation, an excluder between the two stories, and a week later setting the upper story on a new stand, giving it a ripe queen-cell.

2. Give the frames with granulated honey to the bees. If nearly all the honey in a comb is granulated, uncap and spray thoroughly with water before giving, repeating the spraying when necessary.

Controlling Swarming.

How can I control swarming besides cutting out queen-cells. I have 13 colonies of bees, so you can see that I am new at the business, but I expect to have 2 swarms from each colony, unless I find some way of controlling it. The season is very short here. It will soon begin. I expect to put on supers about the 15th of next month. My bees are all hybrids. CALIFORNIA.

ANSWER.—Cutting out cells is not a success, but here is a way you may control swarming sufficiently to have only one swarm from each colony: When the first swarm issues, set it on the old stand, with the old hive beside it. A week later move the old hive to a new stand 6 feet or more distant. That will make the field-bees join the swarm, weakening the old colony so that all extra cells will be destroyed.

Transferring and Feeding Bees.

1. I bought 2 colonies of bees last fall, and the one has 11 frames. The combs are crooked and "rusty." I would like to put this colony into a box-hive. Should I set the hive on top of the box-hive, and when the bees have combs started, would the queen go down? What time in the spring should it be done?

2. I want to feed them sugar syrup. What time should I start in the spring? Could I mix water and sugar together without boiling? PENNSYLVANIA.

ANSWERS.—1. If you wait until the frames above are all filled with honey, or very nearly so, you will be pretty safe in taking away the upper story to find the queen below. It may take a good while, and if the season is very poor the queen may not get below at all. You can set the hive above any time after bees fly every day.

2. Unless there is danger of starving, don't feed till bees are flying freely nearly every day. No need to boil the syrup, only so the sugar is dissolved.

Section Honey with Holes.

A neighbor bee-keeper sent me a lot of honey to sell on commission. He said it was No. 1. When I opened the supers I found nearly every section with a big hole in the middle. Many others were only half full. What makes bees build that way, in your opinion? I thought he had a lot of degenerated bees. NEW YORK.

ANSWER.—The first answer that comes up is: "I don't believe a word of it—you're fooling." But I can't believe you would trifle with the feelings of a guileless youth like me, and so I must resort to that overworked reply, "I don't know." Just to show, however, that I want to be obliging, I'll make a guess, although I doubt if it's the right guess. A botttom starter was used, and instead of having the top starter come down pretty close to the bottom starter there was a big space between the two. The bees began work on both, the harvest was poor, and the flow stopped before the two were built together. The man thought they were No. 1 sections because he hadn't taken them out of the super, and they looked all right above and below.

Spring Feeding—Transferring—Ants, Etc.

1. Out of my apiary of 5 colonies, only one will work in the super. What is the matter with them?

2. When would you advise me to begin feeding for spring?

3. I have one colony in a box hive which I wish to transfer. What is the best way to do it?

4. What is the best way to rid hives of red ants?

5. Which would you advise me to plant for bees—white clover or alfalfa?

6. Will bees gather honey from red clover, catnip, yellow mustard, and black locust blooms?

7. My bees are natives, I suppose, as they were taken from bee-trees back in the 60's. Would you advise me to cross them with Italians? They are certainly fighters. MISSOURI.

ANSWERS.—1. Hard to say without more particulars. Perhaps the harvest was poor, the only colony storing being the strongest.

2. I wouldn't feed at all if the bees have plenty of honey. If they have not, feed as soon as they are flying freely; sooner, rather than have them starve.

3. Wait till they swarm, hive the swarm in a movable-frame hive, and in 21 days you have your choice to add the rest of the bees to the swarm and melt up the combs, or else cut out the combs and fit them in frames, as I advised "Illinois," and put them, together with the bees, in a new hive.

4. Trace them to their nests and pour in gasoline.

5. Probably all that you would plant of either wouldn't make much difference, unless you have many acres. Likely white clover would yield more honey in Missouri.

6. Yes, from all of them except red clover, and sometimes from that.

7. The introduction of Italian blood would probably increase your crops.

Getting Increase and Honey.

I have an apiary of 22 colonies which I wish to double in number, or more, if the season is favorable. I want as much honey as I can get, which will be extracted.

1. How would it do to take 2 frames of brood from each colony, say every 7 or 8 days, and from full colonies or nearly so, at once?

2. You say that you did that one year and it was a success in most cases, in preventing swarming. Wouldn't it be more sure if one were running for extracted honey?

3. If the colonies thus formed were given laying queens, couldn't they soon be strong enough to help increase?

I have tried the nucleus plan of increase, which I would try if I knew what the season would be, but the honey-flow has always shut off for me.

My bees are in 10-frame Langstrotb hives. White clover and smartweed are my only surplus crops. ILLINOIS.

ANSWERS.—1. It ought to work. Better not say, "nearly so," but give the newly formed colony 10 frames of brood at the start.

2. Yes.

3. Yes, but you couldn't count on them for honey if you drew from them for increase, and not much in any case unless from the late crop.

Prevention of Swarming—Spring Feeding.

On page 70 is given your plan for the prevention of swarming.

1. Do you remove the queen-cells when you brush off the bees, and again when you put the frames back into the hive with the queen, or will the bees attend to that matter themselves?

2. Where bees are short of stores when taken from the cellar, and one hasn't combs of honey to give them, which is better, to feed tnem sugar syrup a little at a time until the honey-flow, or to feed them enough at once to last them?

3. "In this locality" it is not advisable to stimulate brood-rearing early in the spring. Would not the same method be less likely to stimulate brood-rearing? MINNESOTA.

ANSWERS.—1. Generally there are no cells at the first shift. If there are any that are at all advanced, there will be several, and as the combs are bared if none are noticed, no special search is made for them, but if one is noticed then care is taken to destroy any that are at all well advanced. At the time of putting down the brood almost certainly there will be cells, and they are destroyed. It is a question, however, whether that is necessary; just possibly the bees might attend to it themselves, although they would not attend to it at the first shift.

2. I prefer giving the big dose at once. Locality may make a difference.

3. Yes.

The Non-Swarming Secret.

In reply to my question you say on page 57, "I have a plan that fulfills the conditions of the Davenport plan; do you think it would be wise to give away the secret?" Most assuredly not. I think you said somewhere (though I can't find the page) that you "doubt if the secret were known that it would be much used," or words to that effect; so what's the use?

You might confer with Mr. Davenport and organize a secret society with yourself as Grand Irrefragable Perambulating Treasurer, and Davenport as Almost Illustrious Exalted Supreme Queen B, charging a good round admission fee, communicating the secret during the initiation. I would like to join as a charter

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member (if I can have an office), and secret societies are such a rarity (?) that you would have no trouble in securing a large membership and filling the treasury full to overflowing. Meanwhile you might whisper the secret to me.

I kept my bees from swarming 2 years ago by placing the brood over the queen with an excluder between. When buckwheat came on, I had my hives chock-full of bees. I also had several swarms in September, and that's rather late for Northern New York. I'd like to know how to stop them at that time.

I want to thank you for the kind and courteous answers you have given to my sometimes foolish questions from time to time. Your replies have been of much value to me, and I am correspondingly grateful to you.

NEW YORK.

ANSWER. — Yes, that's the plan given by G. W. Demaree, a Kentuckian who was prominent in the ranks some years ago. The plan is good, and the pity of it is that it will work only for extracted, not comb. The brood-combs being put above become extracting-combs. To prevent swarming in September (which is not usual, I think, but may come where there is a fall flow), it might work to try the same plan over again: extract the frames in an upper story, put them in the lower story with the queen, the brood above, excluder between. If this be done just as buckwheat begins, it seems it ought to work as well as earlier. If you try it, kindly report as to success or failure.

Danzenbaker Hive — Preventing Swarming.

1. What information can you give me concerning the Danzenbaker hive? Would you advise its use for comb honey? What style of hive do you use, and what advantage do you claim for it?

2. Do you like the 4 x 5 plain sections? Has it any advantages over the old style bee-way sections?

3. I have 10 colonies and I intend to run them for comb honey, and do not want any increase. Can I keep them from swarming? If so, how?

VERMONT.

ANSWERS.—1. The Danzenbaker hive is shallow er than the Langstroth, with closed-end frames. From a trial of two such hives side by side with the hive I am now using, I concluded I liked the latter better. It is the dovetailed, with frames the same size as recommended by Father Langstroth, and has the advantage of being most common in use, simple, and with the Miller frame easily manipulated.

2. Some claim it an advantage to have a tall section because it looks more than a square one. A 4 x 5 section is also supposed to look larger than a 4¼x4¼ of the same weight, because having a larger surface, although thinner. After trying many other sections, some of them on a pretty large scale, I prefer the square 4¼ of the old style.

3. Not the easiest thing to do. You may be able to succeed by shaking swarms. See also something on the subject on another page of this number.

Nuclei for Increase.

Being a beginner, I am somewhat in doubt as to the method of procedure in forming nuclei for increase. If I am not mistaken you take 2 or 3 frames with brood and bees, including a ripe queen-cell, and place them in a new hive and set it on a new stand, and then gradually give them frames with full sheets of foundation, or better, with brood from other colonies.

1. Now the question is, by placing the nucleus on a new stand, won't almost all of the bees go back to the parent colony, and thus leave the nucleus without sufficient bees to take care of the brood? Is it necessary to close up the entrance entirely? If so, how and with what—that is, the entrance-blocks, or with grass or leaves—and how long would you leave it thus closed? Would they get sufficient ventilation if the entrance is closed entirely? If it is not necessary to close it entirely how much of an opening would you leave in order to avoid robbing?

2. Suppose you had one colony of pure stock, and 2 or 3 other colonies of hybrids. Now you wish to breed from pure stock, how would you proceed? Would you use the nucleus plan, or is there a better way? Would you cut out all the drone-comb in the hybrid stock? Is there any danger of in-breeding in thus breeding from but one colony?

ILLINOIS.

ANSWERS.—1. If the nucleus is forced from bees that have been queenless 2 days or more, the number returning to the old stand will be much smaller than if taken from a queen-right colony. Besides taking the bees adhering to the combs of brood, an additional lot of bees can also be shaken from other combs. If the nucleus is formed from a queen-right colony, fasten them in the hive for 3 days by packing green leaves in the entrance. If you forget to open it, the drying of the leaves will open it. With no more than 3 or 4 frames in a full-sized hive there is no danger of smothering the bees.

2. Yes, the nucleus plan is good, or you can use natural swarming. Give sealed brood from the other colonies to your best colony, strengthening it so it will swarm first. Each time it swarms set the swarm in its place, setting the colony that has swarmed in place of another strong colony, and setting the latter on a new stand. This strengthening each time will result in its swarming a number of times, of course with an Italian queen each time.

Hive-Entrances in Winter — Transferring—Spring Feeding.

1. When bees are wintered on the summer stand with a chaff box around the hive, should the entrance of the hive be shut with a wire screen so the bees can't fly out, or should it be left open?

2. If it is left open will the bees come out on warm days and fly to the field, and never return?

3. What would be the best way in the spring to transfer the bees from a box-hive to a frame hive?

4. Is it a usual thing for bees when wintered in a chaff box to come out and die?

5. What is the best to feed in the early spring, sugar syrup or candy? How should it be made.

MINNESOTA.

ANSWERS.—1. The bees must not be fastened in. Those that try to get out will stir up the rest.

2. No.

3. Better not transfer till 3 weeks after the colony swarms. Then drum out the bees, cut out the combs and fasten in frames, unless you may prefer to add the bees to the swarm and melt up the combs.

4. Yes, it is the usual thing for a number of bees to die in the winter, no matter how they are wintered.

5. It is not best to feed either in early spring unless there is danger of starving. For this purpose either syrup or candy may be used. The syrup may be made of granulated sugar and water, pint for pint, and the candy like any candy is made, cooking the sugar in a very little water until it is brittle when dropped into cold water.

Either Chunk or Section Honey—Interesting Experiment.

I have a few colonies of bees in 8-frame dovetailed hives with 4¼x4¼ plain section-holders. I am thinking of getting some small frames to fit these section-holders, for the production of chunk honey, perhaps only for my own use. My idea is to have both small frames and sections to fit these section-holders, so I can get either chunk or section honey —not both at the same time.

1. Would there be any advantage in this plan?

2. Would the bees work in the small frames more readily than in boxes?

3. Kindly tell me what kind of foundation is the enclosed?

4. I want to tell you of an experiment I have been making this winter. Last fall I had 2 colonies of bees so cross that I had to move them on account of the neighbors. A few of the bees came back and entered an empty hive near the old stand. I don't believe there was a pint of them. And in a few days I was surprised to find that they had built a comb about the size of my hand. About that time I requeened the old colonies, and for fear of an accident to a new queen, I thought I would put one of the old queens with the little swarm for safe-keeping. This was the last of October. As I did not care whether I kept them or not, I thought I would experiment with them, so I made a box, or false bottom, 2 inches deep, the size of the hive, in the end bored a pin-hole, and put in a pipe 4 inches long, then put a shelf in the dry room of my mill where it is hot most of the time, placed the false bottom on the shelf and run the pipe through the wall to the outside. Then I put on the hive. That left them with no outlet except outside the building. I was shut down 2 weeks when the temperature outside ran down to 20 degrees below zero and water froze in the room. With that exception there has not been a day they would not take syrup, and they must have been breeding, as there are many more bees than there were last fall. They are very quiet and never come out except on days when other colonies fly. The jar of machinery does not disturb them. All my bees had a good flight yesterday.

MASSACHUSETTS.

ANSWERS.—1 and 2. Yes; bees store more in extracting-combs than in sections, and your small frames would be at least a little approach toward extracting-frames.

3. Thin surplus, I think.

4. This is decidedly interesting. It shows that when necessary field-bees may become nurse-bees. But the most remarkable thing is the prosperity of that little colony. According to my best judgment it ought to have been dead long ago.

Spraying Fruit-Trees in Bloom.

Is there any law which protects bees from being poisoned on fruit-trees which are sprayed when in full bloom? How can any one know whether his bees are being poisoned or not? Do they die in the orchard or return to the hives and die? People in this vicinity seem to disregard bees entirely when spraying.

KANSAS.

ANSWER.—I don't know your State laws, but I'm afraid you have no law on spraying. If bees are poisoned you will find at least some of them dead in or near the hives.

Prevention of Swarming.

I have 5 colonies of bees on a 60-foot lot in the suburbs of Brooklyn, and don't want any more increase, as I don't like to give away swarms. I had 3 swarms last year, and gave away one swarm and 2 of the parent colonies. What do you consider the easiest and simplest way of swarm management and no increase?

BROOKLYN SUBURBANITE.

ANSWER.—A little before time to swarm, if you remove the old queen, and destroy all cells but one before the young queens emerge, you ought to have no swarming. Perhaps you might like the plan on page 70.

Hive-Ventilation—Observatory Hive.

1. Would not an inch hole on each side of the super, with wire netting inside, be of some benefit in the way of ventilation in hot weather?

2. I have an observatory hive in which I expect to put bees this spring. How shall I get them started? This is my first year with an observatory hive.

MARYLAND.

ANSWERS.—1. It would not work well for section honey, but would for extracted, although I would rather give ventilation between stories by shoving the upper story forward.

2. There's no trick about it; merely start as you would in any other hive by putting in the requisite number of combs of brood with bees and queen. To prevent the bees going back to the old home, set the hive in a dark cellar 4 days or more.

Closing Hives When Spraying Bloom.

What would be the best thing to do with my bees in the spring when the orchard is being sprayed? We have a large orchard and I want to spray it at least 3 times this spring. Would it be a good idea to close the entrances of the hives, and keep the bees closed a few days after each spraying? The colonies are all in good shape and will have enough to eat during the time they would be closed. I have heard that the spraying of the trees when in bloom kills the bees when they work on the blossom.

NEBRASKA.

ANSWER.—It would be pretty hard on the bees to fasten them in the hives, although not so bad if kept in a dark, cool cellar. But there is no need to shut them in. No up-to-date fruit-grower would think of spraying an orchard when in bloom, even if no bees were within a thousand miles. It does no good to the fruit, and is a positive injury. You can spray before blossoms open, or after they drop, but if you want fruit you'll never spray when in bloom.

Balm Attracting Swarms.

Have you ever tried rubbing balm leaves on a certain limb of a tree when bees are in the act of swarming, to have them settle on that limb on the exact spot where the balm leaves were rubbed.

A friend of mine told me he had seen this plan tried, and it was a success. And another man heard him tell this, and said he was going to try it. Friend No. 2 says it was successful. So I am anxious to know if anyone else has tried the plan. If it is a good one, there is not much use clipping the queens, although I have my doubts yet as to the certainty of

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the thing. These are the first and only cases of the kind I ever heard of. ALABAMA.

ANSWER.—A swarm is more likely to settle in the place where a previous swarm has settled, but I have some doubt about balm attracting a swarm. In Europe there have been reports of success with some kind of lemon leaves. I yield the floor to any one who can report success or failure, although no amount of such attraction would take the place of clipping for me.

Originated the "'Lyeing' Business."

On page 89 you charge Miss Wilson with being the originator of the "lying" business. That is a grievous charge, and it is utterly untrue. The originator of the lying business was that fellow who, in the garden of Eden, told our mother Eve that she should not surely die if she ate of the fruit of the tree which grew in the midst of the garden. You owe Miss Wilson an abject apology. She may be the originator of something that may be called the *lye*-ing business, but to charge, or insinuate, that Miss Wilson was the first of liars is piling it up too high. Come down, Doctor, and have the spelling of that word changed, or be forever the scorn of bee-keepers.

EDWIN BEVINS.

I submit the case to ye editor, and throw myself on the mercy of the court. C. C. M.

[Yes, it should have been the *lyeing* business, and not *lying* business. Dr. Miller need stand only half the court costs this time. Second offense may be more *costly*.—EDITOR.]

Increase and Improving Stock.

I recently came into possession of 3 colonies of bees, and am getting interested in them. I want to increase and also improve them by crossing with better stock.

1. What stock would you advise me to use? My bees are the common brown or black bees.

2. One colony is in a box-hive, and 2 are in King's patent. What do you think of this hive, made with double frames in body, and honey box, or super on top? Is it not all right where comb honey for the local trade is the object? TENNESSEE.

ANSWERS.—1. You will do well to get an Italian queen.

2. It will do well enough to have the 2 King hives, but if you think of enlarging the business you better have hives with frames 17⅝x9⅛.

Using Disinfected Hives.

A farmer had given me a lot of empty and full hives in which the bees were affected with foul brood. I killed the bees, melted the combs, scraped the hives and frames last winter, then dipped them in boiling water. Now, would they be safe to use the coming season, or would they have to stand a year or more?

WASHINGTON.

ANSWERS.—Some say that hives may be used without anything being done to them. Others say they should be burnt out. Dipping in boiling water would probably make no difference, unless left 2 hours. It would be on the safe side to burn them out. Put in a little dry straw, touch a match to it, stir about with a stick so all parts are scorched, then throw in water. If you haven't straw, use a gill or so of kerosene.

Cockroaches and Bees.

What can I do for roaches? They bother the bees by getting in the brood-chambers, on sections, and all over the inside of the hive.

TENNESSEE.

ANSWER.—I didn't suppose cockroaches would do any particular harm in a hive where there are bees. You can poison them with some of the special poisons sold for that purpose or with any other poison, only you mustn't poison the bees. Put the poison between little boards only ⅛ inch apart, or in some vessel with a ⅛ inch entrance.

Making Increase with Box-Hives—Requeening—Carrying Hives.

1. I wish to make increase with a strong colony in an old box-hive. Would it do to bore holes on the top of the hive, put on an excluder, then follow the instructions on page 260 of "Forty Years Among the Bees"—increase without nuclei? Could I repeat the operation several times with the same box-hive?

2. Are those expressions synonymous—"tested queen" and "laying queen," "untested queen" and "virgin queen?"

3. Should I like to requeen No. 237, in increasing after the method pages 255-256, what would be the best time and the best way to do so?

4. May I be permitted to suggest an improvement on the device Fig. 8, page 29? I would put the middle of the strap on the breast, then pass it around under the arms, and after it has been crossed, draw it over the shoulders; thus the load would be not on the neck but on the shoulders. QUEBEC.

ANSWERS.—1. Sure. You can repeat the operation just as often as you can get enough bees to go up and cover the combs well. Of course, much depends upon the strength of the box colony.

2. No; she's a laying queen as soon as she lays, but not a tested queen till you can see by her worker progeny that she is purely mated; an untested queen is a laying queen, but has not been laying long enough to show whether she is a tested queen; she's a virgin queen before she has met the drone.

3. Introduce the same as introducing any queen in a provisioned cage. The most convenient time is when brood is changed.

4. The suggestion looks good.

Mold in Hives.

I started to keep bees last summer, and had 5 colonies to winter over. Four of them are alive this spring, and seem to be in good condition, except that in 2 of the hives there seems to be something on the combs. It looks as if it might be mold. It seemed to come mostly over the cells in which pollen was stored. A few cells that were filled with honey were covered also. The pollen seemed to get thin and watery, and a bluish-white substance formed over the cells. I wintered my bees in a cellar. No fire was kept in the house all winter. Towards the last of February, when the snow began to thaw, some water came into the cellar and was there for 2 or 3 weeks. Two of the hives are made of basswood and 2 of pine. The basswood hives are the ones that were affected. What ails the combs? Will it harm the bees? If so, what should be done?

MICHIGAN.

ANSWER.—Don't worry; it's mold. See answer to Minnesota.

Treating Foul Brood in Spring.

I will be obliged to treat my bees for foul brood this spring. How early in the spring can bees be treated for foul brood? Or what is more to the point: How early in the spring may bees be depended upon to build comb if honey, or honey and syrup, is fed? If I could treat my bees early I would not lose so much brood, and may have a crop next summer; if left till fruit-bloom or later, I may have to allow this brood to hatch, which I very much dislike to do, because of the danger of spreading the disease again. IOWA.

ANSWER.—Bees will build comb any time when you can get them to take feed, if they have no room to store it.

Moldy Hives and Combs.

1. After mold has entered the hive, does it hurt the bees in any way?

2. Is there any way of getting the mold out of the hive? If so, how?

3. How can I clean a comb that has both moth and mold on it? MINNESOTA.

ANSWERS.—1. It doesn't seem to effect the bees particularly; the worst thing is probably its effect on the pollen.

2. Fresh air and sunshine is the best cure for it. In a strong colony it will disappear as the weather warms up.

3. Give such combs, one at a time, to a strong colony.

Bait-Sections—Packing Bees for Winter.

1. In putting bait-sections, or sections partly filled with comb, into supers when you put them on at the beginning of the season, wouldn't the super be filled better, that is, wouldn't all of the sections be more likely to be completed at the same time, if the bait-sections were put at the outside of the super? Wouldn't it be just as effective in getting the bees to go up and begin storing honey in the super? Any one might have one bait-section in the middle and the rest on the outside.

2. Next fall I expect to put 3 shallow frames of honey in the center of a super, having a super for each colony, then just before I pack for winter I will put one of these supers on each hive. For out-door wintering which is best to do, to put the packing on each side of those 3 frames of honey and then put the winter-case over? or should I leave this space empty, and place another super filled with packing on top of all? Do you think it would be necessary to pack on each side of frames and then put another super of packing on top? PENNSYLVANIA.

ANSWERS.—1. Your views are all right. Bees will start soonest on a central bait; but if more than one in a super put them in the corners, or at least outside.

2. Better fill all empty space beside the honey, and then pack on top.

Preventing Second Swarms.

Suppose a colony of bees swarm and return to the hive from which they came (the queen having her wings clipped), how would you treat such colony to prevent them from again swarming? ILLINOIS.

ANSWER.—The same as if the queen were not clipped. See reply to Texas.

Foul Brood and Wax-Worms.

I wish information concerning foul brood and wax-worms. I have had bees only about 6 months. I purchased 2 apiaries (45 colonies in all) last fall, and the questions that I ask pertain to beeless hives that were in that condition about September 15, 1907, but did not appear to have been that way all season. No information could be obtained from the owner, who was an aged man, and not well. Some hives were just about half full of moth-cocoons.

1. Are good parts of comb all right for use this season?

2. How can I care for unused combs? Is it sufficient to have them in hives almost air-tight, from cold weather on, or must I fumigate them just the same?

3. Are supers containing sections with foundation safe from the attacks of a moth if piled so as to be almost fly-tight, or must I fumigate these also?

4. Just one hive suggested foul brood to me. This had a sour, disagreeable odor. No moth-cocoons were there at all. A great many brood-cells had the capping raggedly gnawed, and the skeleton-like skin of the larva lay at the bottom of the cell. Other cells contained something that appeared like a dark salve, or the color of crude oil. Possibly this was dry pollen, but it puzzled me. Is it your opinion that this one colony perished from foul brood? No matter what the cause, is it safest that I destroy the combs? IOWA.

ANSWERS.—1. If the larva of the bee-moth have destroyed only part of a comb, the rest is all right to use.

2. A comb that has been out through all the freezing of winter without any bees on it will be all right if kept in a place so close the bee-moth cannot enter. If bees were on it, there will almost certainly be worms or eggs in it.

3. I have never known moth to attack these.

4. Hard to be positive, but I don't believe there's any foul brood in the case. If none has been in the neighborhood, you might use the combs, watching closely.

Management for Prevention of Swarming.

1. Your plan for preventing swarming, on page 70, is surely a splendid one. Will this plan work equally well, no matter how near the colony is already to casting a swarm?

2. Does it work after queen-cells are started? Or, if there are already sealed queen-cells, must these be destroyed when shaking the bees?

3. Is such a colony cured of the swarming fever for the entire season, or must it sometimes be given this treatment twice to be on the safe side? Please tell all you know about this plan, as it will surely be thankfully received by all readers of the American Bee Journal.

4. Why does Mr. Davenport not give away his secret?

5. How about the Alley queen-trap for preventing the loss of swarms? How often is it necessary to visit the yards if these traps are used? and what treatment should be given the colonies whose queens are in the traps if no increase is desired. TEXAS.

ANSWERS.—1. I have never tried the plan until cells were started, and the nearer swarming the better. In fact, it will work all right, I feel

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confident, if you wait till the colony has actually swarmed.

2. All cells should be destroyed at first operation, although no harm will come if some are left so young that the queens would not emerge until the brood is put down. All you care for is to have none hatch out while over the excluder. At the time of putting down the brood all cells must be destroyed, but not many will be started after the brood is put up.

3. I think the chances for future swarming are exactly the same as if the colony had swarmed, no more, no less. Of course I can not be too positive about this without more experience. If a colony be treated very early, I should rather expect it to swarm, just as I would expect a very early strong swarm to cast a virgin swarm.

4. He thinks it would make bee-keeping too easy, too much honey produced, and prices lowered.

5. All that the Alley trap does is to hold the queen when a swarm issues. A swarm may be shaken when a queen is found in a trap, or the treatment on page 70 used.

I may add that if you work for extracted honey there is no need to put the brood down. Only in that case I should fill the lower story with full sheets of foundation. The Sherzinger plan is to wait till a colony swarms, then give the queen a lower story filled with foundation, putting all the brood above an excluder.

A Beginner's Questions.

I have kept bees for a number of years but never had any success with them.

1. Will a bee-book help me? My experiments with the bees almost always went wrong.

2. Do you feed the bees between honey-flows? I find sometimes that young bees are carried out of the hive dead. Don't you think there is danger of starving?

3. I have had a little experience in preventing swarming. I made a 14-frame hive and a 14-frame super. I hived a big swarm in that the 4th of July. The bees did not store any surplus that year, but the next year I put on 2 supers and there was no swarming that year, and the bees stored 100 pounds of honey. In the spring of 1907 the colony was weak. The first swarm that came out of the other hive clustered on the first hive and went in and stayed. There was no swarming in 1907. Don't you think that if they have plenty of room they will not swarm?

4. How many frames are there in a nucleus hive? Where can I get one of Italian bees?

5. How can I prevent butterflies from going into the hive and laying eggs, which destroy the bees? I have had a number of colonies destroyed. MINNESOTA.

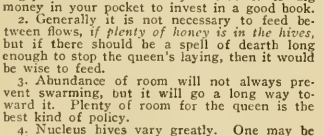
ANSWERS.—1. I hardly know how to put the answer strong enough. It would be a gain if each bee-keeper would get a bee-book before he owns a bee. That is plain. I would be doing a favor to all without such a book if I should say, "I'll not answer a question in this department till you get a bee-book and study it." But I dare not say that, for some would think it only laziness on my part, and would be angry. Let me assure you that it is big money in your pocket to invest in a good book.

2. Generally it is not necessary to feed between flows, *if plenty of honey is in the hives*, but if there should be a spell of dearth long enough to stop the queen's laying, then it would be wise to feed.

3. Abundance of room will not always prevent swarming, but it will go a long way toward it. Plenty of room for the queen is the best kind of policy.

4. Nucleus hives vary greatly. One may be made to contain 3 or more frames of very small size. Except for queen-rearers, hives of full size containing 2 to 4 full-sized frames are generally used. Indeed, some queen-rearers prefer full-sized frames. You will find Italian queens advertised in this Journal.

5. Strong colonies are the best prevention against the bee-moth. But Italian bees will keep them at bay, even if not so very strong.



Wintered Well on Sugar Syrup.

Bees are coming out in excellent shape where they were provided with sugar syrup stores last fall, or in districts where the flow was good. However, there are symptoms of bees not having wintered well unless they were well provided as above. I have now taken out of the cellar about 280 colonies, and have found only 2 dead. These were bees taken from a neighbor just before cellaring, and had to be shaken on cold combs of honey, so they should not count. R. F. HOLTERMANN.

Brantford, Ont., March 26.

Wintered Well in Shed.

I have taken 40 colonies out of a shed where I had them all winter, and they seem all right. I lost only one out of the 40 colonies. I have 100 colonies in the cellar and will try to take them out this week. WM. J. HEALY.

Mineral Point, Wis., March 30.

Stray Swarm in December.

I had a swarm of bees come to my place the last week in December last, and went in with a small colony I had. Did you ever hear of anything like that before for that time of the year? DAVID MAINWARING.

Barclay, Kans., March 5.

Bees Wintered Well—Good Prospect for Honey.

I have just finished examining my 90 colonies of bees. I find them in fine condition, strong in bees, and plenty of honey, with a loss of 3 colonies. I winter them on summer stands, using leaves over the bees to absorb the moisture. We have a fine stand of white clover, and the fruit-buds have not advanced as far as they were last year at this time. If the weather continues favorable, everything bids fair for a good honey crop this year.

J. G. CREIGHTON.

Harrison, Ohio, March 16.

Bees Wintered Well.

I have wintered my bees out-doors this winter with great success. My colonies have come out strong, and not one queenless colony.

CHAS. SMITH.

Hannibal, Mo., March 16.

Very Mild Winter—Bees Breeding.

This winter has been very mild—no snow at all, and only a little white frost in the morning 4 or 5 times. There was not one week that bees could not buzz around. February 1, I opened all the hives and fed about 200 pounds of honey, sealed in combs of course, and they seemed to be doing well. I found brood in one or two combs in the most of them, and it looked as if there were more young bees in them than some seasons over 2 months later. I honestly believe that they have kept on breeding all winter. The thermometer has stood most of the time around 50 degrees, and the extremes have been 30 and 70 degrees. When it is cold at night it is generally fine weather, and warm, during the day.

But say, can you give me the address of that $7,500 pretty girl? A man never knows what may happen. Maybe Miss Wilson held that back purposely, for some reason. For my part I would be willing to knock off the first figure if I could get $500 worth of honey next season. O. K. RICE.

Wahkiakum Co., Wash., Feb. 27.

Bees Carrying Pollen—Mild Winter.

This beautiful, spring-like weather my bees are at work as if it were summer-time, carrying in pollen. If the weather continues this way bees will do well. But it has started too warm like last year. We have had a very mild winter. There have not been many days that the bees could not fly. Maples are in bloom, and peaches will soon be. R. B. PERRY.

Greenfield, Tenn., March 5.

Home-Made Bee-Hives.

Did you ever make a bee-hive. Did you ever make two of them? And were they both the same size?

After spending a few years in the planing mill, running different kinds of machines, and putting the work together, I will say to the man wanting good hives, don't use home-made, but get them from the supply-house or send to the factory for them, where they make a specialty of that kind of work, where they are prepared to do it with their special machines, then you can rest assured that each hive will be exactly the same size, everything fitting nicely. It will then be a pleasure to nail them together and get them ready for use; then, too, the inside fixtures can be changed from one hive to another, or be replaced by new ones if necessary; all being of the same standard size where there is no trouble or worry about their fitting.

Do not trust the mill-hand to cut out a few hives for you, unless you are there to watch the work, for little he cares about the lengths or widths, whether they are just right or not, or whether the stock is what it should be. The general mill-work does not need to be so accurate and close—their work is quite different.

To make a hive by hand requires a skilled mechanic, and good tools. It is easy to vary the size of a hive a sixteenth of an inch or even more, getting some pieces a little too long or a little too short, making a bad mess of the frames when it comes to putting them in or exchanging them, which is often done.

The corners of a hive should be dovetailed together, then you can nail from both ways, making a corner that will stay and not open up in a short time. A mitered corner is equally as good, but harder to cut and fit together.

I would not advise hand-power machines or buzz-saws; they are only an aggravation. Before purchasing a buzz-saw, it would be well to get insurance on each finger for its full worth. It is an old saying, "Don't monkey with a buzz-saw," and I wish that I had not. C. K.

Mechanicsburg, O.

Bees Wintered in Cold Cellar.

Bees are in good condition in this locality, and the warm days we had gave the bees an opportunity for a cleansing flight after their winter confinement. I moved my bees last November 8th, 3 miles, over very bad roads, and put them into the cellar without having a flight, and the cellar isn't dry. Sometimes it froze in the cellar, but I never had my bees in as good condition as they are this spring. I lost none, and all have good queens, as they have brood in the hive, and eggs, too. I put nothing over the brood-chamber but the cover. NICK JENTGEN.

LaMotte, Iowa, March 30.

Chilled Brood and Foul Brood.

MR. EDITORS—On page 321 of the last edition of "Langstroth," by Dadant, in giving advice on shipping bees to the South in the Fall, and returning them to the North in the Spring, the author uses the following language:

"As the colonies become strong very early in the South, if they are brought back North before the warm weather, their brood may become chilled, and a tendency to the development of foul brood is encouraged."

Now, what I wish to know is, what relation is there between chilled brood and foul brood? If chilled brood induces foul brood, then it is easy to understand why there is so much foul brood; or, rather, it is a wonder there is not much more than there is. Will Mr. Dadant explain through the American Bee Journal what he means by the above statement. You know we regard him pretty good authority on almost anything pertaining to apiculture.

WM. M. WHITNEY.

Evanston, Ill.

We referred the foregoing to Mr. Dadant, who replies as follows:

There is no connection between chilled brood and foul brood, that is, the decayed brood does not usually contain the germs of foul brood, but the authors believe that with the presence of decayed brood, pickled brood or other filth, there is more room for the development of the germs of foul brood if those germs should happen to be present. Filth does not usually contain the germs of typhus, Asiatic cholera, or yellow fever, yet it is a generally recognized probability that the germs of those diseases will propagate more rapidly in such conditions as are found in ill-kept homes. Likewise it seems quite probable that there is greater danger of the propagation of foul brood (the germs of which must originate somewhere) in hives containing decayed brood. We recommend care in the avoidance of decayed brood on the same principle that the boards of health of a city enjoin cleanliness to avoid epidemics. C. P. DADANT.

Queens and Drones—Propolis.

I have seen so much in the bee-papers about queens and drones. Now here is the right way of it: The queen that has been fertilized rears fertile drones, because they will breed, and that shows they have been made fertile, no matter how. Now the queen that has never been fertilized, every one admits, lays unfertile eggs. That means unfertile worker-eggs. Now that is the difference between the two kinds of drones—one fertile and the other

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unfertile, that is, drones that never will breed? Now when this queen begins to lay, it lays in worker-cells, never in drone-cells, and lays all worker-eggs, never drone-eggs. All queens lay worker-eggs first. I have had queens lay all summer without laying a drone-egg. Sometimes you may see a good queen rear a few little drones among worker-bees in worker-cells, but they are all from worker-eggs, just the same; only a little mistake in being made unfertile, that is all. So you see all these unfertile drones are reared from unfertile worker-eggs.

A man says about propolis, "It will always be a mystery to man where they get such, and how they obtain it." Now there is no mystery to me about it. First, there never was a bee living that went out after such stuff on purpose. No one ever saw bees bring such stuff to the hives till the fruit through the country was getting towards ripe, and when the weather was right. There is a little hairy-like stuff grows all over most kinds of fruit, and of just the right length to come even with the pollen places on the bees' legs. This hairy-like stuff has a little waxy stuff on top of it, and when the bees are after honey and licking all around and around so much, never looking for pollen or anything but honey, this waxy stuff begins to catch on the pollen places on the bees' legs, and when it begins it goes on easy. Now this is the way the bees get what we call propolis and never in any other way. They never try to make any use of it for any purpose whatever; just to get rid of it, and that is a hard job. They stick it on anything and everything. I have seen both bees sticking together many times when the bee was trying to get it off.

JOHN MCCANDLISH.

Delhi, N. Y., Feb. 21.

[The foregoing original views are given without the endorsement of the American Bee Journal as correct.—EDITOR.]

A Queen Experience — Newspapers for Wintering.

I had a very curious thing happen to me this winter in reference to queens that I introduced late last fall, and I haven't been able to think out the reason. In September I introduced 2 queens to 2 colonies that I made queenless the day previous, and in January I found 2 dead queens on the alighting-boards, and felt very much concerned over the loss. Saturday, March 7, being a warm day, and the bees were flying nicely, I made an examination of the 2 hives and found the two ladyships hard at work with quite a large batch of sealed brood and quite a large batch of fresh-laid eggs, also 2 old queen cells that had been badly ripped apart on the side—I suppose where those queens came from, but on examination of those queens that I found dead, I felt assured that they were fully matured and had met the drone. Now I cannot account for the above as the bees had no reason to supersede their queens.

My bees have wintered far beyond my expectation. I examined 29 hives on Saturday, and made some changes, putting all winter covers over them, and I found hives with ample stores and no less than 4 frames fully covered with bees. I didn't find any of the hives that had less than 4 frames and some had 6 with lots of brood and eggs for this time of the year.

My bees were all wintered on the summer stands, protected only with newspapers. Now I see in reading several bee-papers, that there's quite a lot of controversy over wintering bees with newspapers. I think if the hives are thoroughly painted, so as to exclude the weather, and have several thicknesses of newspaper tied carefully over the super covers and around the sides of the hives, with a galvanized-iron cover, and plenty of nature's stores, a good, strong colony of bees will winter in the altitude of Philadelphia in any kind of weather. I found only one dead colony in 37.

My crop of honey last year amounted to 1850 pounds from 17 colonies, and an increase of 20 colonies. The season was rather "off" for this neighborhood, but I consider that amount of honey a pretty good showing, considering all conditions.

GEO. M. STEELE.

Philadelphia, Pa., March 10.

Swarming — Hive-Covers — Wintered Well.

I examined all my colonies of bees this week, and clipped all queens that I found unclipped.

I do not replace any queens unless they show some failure. It does not pay here. I examine my bees each year about this time, if the weather is good, as the queens are not so hard to find as if done later in the season, when there are more bees in the hives. It is a great help to have clipped queens, in swarming time.

When the bees are seen to begin to cast a swarm, I, or some one of the family, catch and cage the queen and remove the old hive to a new place at once, and put in its place an empty hive with starters of foundation in the brood-frames. As soon as the bees begin to come back I release the queen so that she can go in with the bees. I also find it a great help to place a frame of brood in the new hive.

Bees do almost as well here if handled as above, as if they had not swarmed, unless it is late in the season.

The next day I remove the super from the old hive and place it on the new one that the colony (or swarm) is in. It is not often that there is brood reared in the sections, and very little pollen carried up into the sections.

I make an extra cover to go on top of my hives to shade them in summer and protect them from the weather in winter. It is a great help in saving the colony, and still gives the bees shade. I do not mean some flat boards laid on top for the ants to build and rear young under. I use a roof-shaped cover. I cut a 1x10 inch board in lengths of 26 inches, and end-pieces 4 inches wide in the middle, tapered to one inch at the ends. Any kind of lumber will do for this unless it is some kind of wood that will rot easily. The reason I use one-inch lumber is that it is not so easy to blow off. I have tried lighter lumber but had to use a weight.

I have not lost a single colony of bees this winter. All were wintered on the summer stands. There are only 3 weak colonies in the lot of about 100. Only 2 colonies were queenless, and one of them was queenless last fall. Prospects are good for elm, maple, and fruit-bloom. Clover is looking fine at this time. We are expecting a good harvest this year.

I am preparing to commence queen-rearing as soon as I see drones flying. I find my own reared queens do as well or better than the ones I buy.

W. A. SWEARINGEN.

Lewis Co., Ky., March 24.

Fair Crop—Bees Wintering Well—Feeding Sugar Syrup.

My honey crop was only fair, but I think pretty good for such a poor season, and the condition the bees were in, as more than half of them were mere nuclei on May 15, 1907. Had I not taken the best care of them and fed them thin sugar syrup, I never could have made the increase I did, let alone getting any honey. We had a fair flow of clover and basswood honey, but buckwheat and fall flow of honey were nearly a total failure. I had on over 600 sections, but got only 75 pounds. From beginning to the end it was the poorest season I have had since I have kept bees. I had to feed them nearly one barrel of sugar last fall to winter on, as the most of them were light in stores. But they went into winter quarters in good shape, and have wintered fine so far. I have some in the cellar, some out-doors, and 6 colonies buried in the ground, or "clamps," as some call them. I will report next spring as to how they wintered in the clamps.

We have had a very mild winter so far. It has not been down to zero yet. The bees that are out-doors have had 3 flights this month, and are out to-day. I think they will winter all right out-doors.

I am a firm believer in feeding sugar syrup both fall and spring, especially if they can't get any honey. In spite of the poor season, and losing over half of my bees last spring, I have made some money out of them this year.

I think the American Bee Journal is fine, and worth twice the price asked for it. I hope all the readers will send in their reports whether poor or good, as we should tell of our failures as well as our successes with bees.

EDW. A. REGDERT.

Baldwinsville, N. Y., Dec. 29.

Bees Hard to Work With—Bad Winter.

The last season has been one of the most trying to the bee-keeper. In the first place, the bees came through the winter in No. 1 condition. They bred up to boiling over with bees. Then the cold set in and rain about every other day, and this kept up till June 15. Then the bees were starving by the thousands. All of this time there was no honey to be gathered. Then the weather changed, and what bees were left began to gather a little honey and pollen; and till the honey season was over they stored plenty to winter on and surplus besides.

It was the hardest season to do anything with the bees. You could hardly make them accept a queen. When you would try to introduce a queen they would ball the cage. The ball would get as large as your fist and remain that way for a week at a time, and no let-up. They killed 3 out of 5 queens for me last season, and I never lost but one before in 24 years. They would keep the cage balled if I did not interefere with them.

This is a bad winter for the bees, as they do not get to fly any. They are soiling the hives at the entrance as they crawl out of the hives. It is too cold for them to fly this winter, and if it does not become warm enough soon so that the bees can fly, there will be lots of dead colonies in the spring.

HENRY BEST.

Hibbetts, Ohio, Jan. 26.

"Attic" Bee-Keeping.

The honey crop in this section with many bee-keepers was a failure, with others it was a partial success. I have seen no "fancy" and very little No. 1 honey on the market this winter, although it is in good demand and at a good price.

We live in a city of 40,000. The houses are about 20 feet apart on each side of us. The past year I had 4 colonies in my attic, and they gave me 400 pounds of comb honey. The best yield from a single colony was 178 pounds. I have had bees in the attic for 5 years, and never had a swarm. They never show any inclination by building queen-cells.

I always feed between fruit-bloom and white clover, as many colonies will starve at that time if left light in stores from the previous winter.

Last spring the 4 colonies carried away each day 2 quarts of water in which I put a tea-cup of granulated sugar.

At fruit-bloom I give each colony an extra hive-body and combs, and manipulate them so as to have 20 frames well filled with brood, and so have lots of bees for the harvest, which lasts about 2 months.

I use a frame of the Danzenbaker dimensions. Just before white clover blooms I take away 10 frames containing the last brood, and replace with supers containing full sheets of foundation and baits. I have never failed to get a surplus if there was any in the field, and I have never had to feed for winter.

I can control the temperature in their room to a certain extent, so I keep them cool during the heat of the day and give them lots of room.

I never keep a queen over two years, but always replace with a pure one from a reputable dealer.

I am a locomotive engineer and when off the road my spare time is spent around my home with my bees, from which I take a great deal of pleasure, a great deal of sweet, and some profit.

My bees have never stung any one viciously, and teams are often driven under them to unload coal, and have never had any trouble. It is no tronble to dispose of all the honey I have, among our neighbors.

P. F. CONKLIN.

Elmira, N. Y.

Bee-Papers for Beginners—Poor Season.

In the summer of 1905 my father told me and my brother that we could keep some bees, and that struck us just right, and gave us the bee-fever about proper. We thought bees were honey. We had one colony to begin with, and toward fall we bought 10 more colonies from an old bee-keeper who kept bees on the "let-alone" plan. These bees were short of honey and we did not know anything about feeding bees, and of course the man of whom we bought our bees did not tell us anything either, so we were left alone to venture into the business. I was 19 and my brother 14 years old.

In January, 1906, we put our bees in an open shed, and of course we had to peep in occasionally to see whether they were all alive yet; and when spring came we had 4 colonies left for the harvest. That was a hard lot for beginners, but it didn't cure us of the fever. We still hoped to get a good lot of honey. When fall came we had about 50 pounds of honey in all. Well, we found out that bees were not honey.

In December, 1906, my brother died, and I was left alone to continue in the bee-business. But that winter I had read how to feed bees and I didn't lose any out of 5 colonies, but one was rather weak and in an old hive, so I concluded I would transfer them, but they didn't do any good, so in August, 1907, I united them with another, and I got only one

American Bee Journal

swarm during last spring and summer, so I still have only 5 colonies, one of which I Italianized in July, and another in September, but I am not certain as to the latter.

In the summer of 1907 I got about 150 pounds of salable honey which I sold on short order, as it was a very cold and backward spring, and there was no fruit except berries.

Here I aim to give a little advice to the beginner: Go slowly! Subscribe for one or two good bee-papers, and get a book on bees. I can plainly see that if my brother and I had subscribed for some good paper a few months before we went "into the oven to get roasted," we would have saved several dollars, although we were not long in subscribing for bee-papers.

I now have 5 colonies in winter quarters, well packed with a water-proof cover telescoping over the whole hive. I have this to say—had I not read on the subject I wouldn't know half of what little I do know.

Helena, Mo. W. E. TRACHSEL.

Northern Michigan Bee-Country.

On page 23, "Michigan" would like to know about the honey-resources, also climate of upper Michigan, from a bee-keeper's standpoint. The writer has been only as far west in upper Michigan as Alger County, where, on the hardwood "cut-over" there are large quantities of wild raspberry, in some places enough to furnish pasturage for 200 colonies in a yard, on this alone.

There is the "pin cherry," so called by the settlers; also "popels," that furnish early honey and pollen, about the same period as the fruit in lower Michigan.

I cannot say what the spring flow earlier than the "pin cherry," or during April; likely there would be but few days in April that bees could fly, in this north location. They would likely be better off in the cellar most of April. This reminds me that some of the bees in lower Michigan were not taken from the cellar until the very last of April, last spring; also that it would be necessary to winter bees in the cellar, or special repository, in this north part of the State. A few bees are kept near the "Soo," is all I know of in upper Michigan, although I have had several calls for honey from upper Michigan, from advertisements in the bee-papers. I do not know whether any of them keep bees, or not.

If I were "Michican," I would take along a few bees, were I moving up there, for I'm quite sure he would succeed, as far as the resources are concerned. Then when he got a crop of honey he would have one of the very best home markets there is anywhere.

Then think of locating in a place where there is not a single bee but your own! Keep them pure—I should think so! But I suppose I have said enough, so he will take along some "seed" in his vest-pocket. E. D. TOWNSEND.

Remus, Mich.

Some Bee-Experience.

I have been a subscriber to the American Bee Journal about 3½ years and since I have been reading its pages I have learned about bees what I consider is worth to me many times the price of the Journal. Before I began to take it my bees used to swarm themselves to death, and I didn't know how to stop them, but now I let them swarm only once. I set the new swarm on the old stand and move the old colony to a new location 7 days later. That is the "finish" for the rest of that season. I am waiting to hear from Mr. Davenport. He is going to tell us how to keep them from swarming at all—*perhaps*.

I want to thank Mr. H. A. Smith for telling us about his discovery, page 72—(1907)—combined hive-cover and feeder. As a cover it is good on account of the 2-inch air-space. As a feeder I believe it is the best I have ever heard of. I want to give it a trial at least. No loosening either top or bottom-board to feed that way. I have always tried to feed out in the open. Then the strong colonies got all the feed, for what little the weak ones did get would be taken away from them again, for the strong colonies always turn out to be robbers, and the weak ones have to die. But it is only a short time till the others follow, for I can't get them through winter.

Six years ago I began to buy some bees. Yes, and I have been buying ever since. The first season I bought one colony in the spring, increased to 4, tried to winter them in the cellar, but they all died. The second year I bought 26 in the spring, increased to 58, wintered them out-doors. Almost all of them died. The third year I bought 21 at the close of the swarming season. In the winter I left part of them out and put the rest in the cellar. I lost most of them from the cellar. Those left outdoors got covered up with a 4-foot snow-bank, and I left them there till spring. I lost one, but some of the others came through very weak.

The fourth year I bought only 1 colony, but I put 30 in the cellar of a vacant house. Last spring only 4 hives had any live bees, and I lost one of those colonies later. I went out to look at them one day, and in front of one hive I saw a queen and 4 or 5 workers. They were apparently trying to get the queen to go back into the hive, so I pushed the queen in. Soon she came out again. I sent her in again and she came out. Then I opened the hive. There was not a live bee in there, so I put the queen in front of another hive. She went in, but I found her dead later. Last spring I bought at the only one that lost bees last spring. I know of one man that had 70 colonies, and lost all but 12. Another had over 100 and saved only 13, and others in proportion. This all happened around Waterloo, Iowa. IOWA.

February 4.

Poor Season—Production and Sale of First-Class Honey—Advice to Beginners.

Our apiary of 75 colonies in 12-frame Langstroth hives, was reduced to 68 colonies last fall, owing to the loss of young queens at mating time.

We have passed through a poor season. Our crop of honey, all extracted, was a trifle over 2000 pounds. We sold 500 pounds in one-pound square jars. This went to the groceries. The balance was sold in 10-pound friction-top pails to private families. We find that the one-pound square glass jars are a splendid advertisement, but it pays to look well to the trade in 10-pound pails. For 15 years nearly all our honey has been sold in the near-by towns and cities, and I am my own salesman, with my son as assistant.

This is the way we produce first-class honey, which always runs short before we get around to all the customers: We put our crop of clover and basswood honey in large settling tanks, and leave it until we we get our fall crop of honey, which is mostly from touch-me-not. This is poured into the tanks of white honey, which makes a blend that is fine. One of the secrets of success in disposing of our honey so readily is that we extract our honey only twice in the season—once when we take off the white honey, and late when the fall crop is nearly all sealed, or about the time we get our frosts which kill the flowers. Our honey is always ripe and rich, with very little honey-dew to give it a rank taste and dark color.

The one-pound glass jars we sell for 15 cents each, and the 10-pound pails bring $1.10.

I find it a great advantage to be able to sell one's own honey, and always try to have a ready answer in making a trade. We also sell considerable honey to druggists and candy shops, also to parties that manufacture and sell prepared medicines. So much for producing a high-class honey.

Now a word to my young bee-keeping friends: Don't take your honey off the hives until it is ripe and sealed in the combs. Don't be satisfied until you can put as good honey on your market as is produced in your locality. Don't try to fool your customers with thin, unripe honey. Be honest; be a man—or a woman, as the case may be.

We often find those that prefer the honey in the comb. We try to tell them where they can find it for sale, but never argue and urge such persons to buy our extracted honey instead, for, as I said before, we never have enough to get around. C. A. BUNCH.

Lakeville, Ind., Jan. 1.

Requeening Without Buying Queens.

On page 55, Dr. Miller gives Mr. Walter M. Adams a method for "simple requeening without buying queens," which is an easy method, and can be worked by any one, even with box-hives.

Now, before we have Dr. Miller's plan scarcely read, Mr. Alexander comes in Gleanings for Feb. 15, on page 210, and says, "The most common and worst mistake that can be made in rearing queens is saving the natural cells and virgin queens from colonies that have cast natural swarms." Then follow his reasons for his statement.

I would be pleased to have Dr. Miller comment on this part of Mr. Alexander's article, especially the part relating to perpetuating the swarming propensities by the use of after-swarms and queens reared under the mating impulse. Surely the Doctor's experience of nearly half a century ought to throw some light on the subject.

My plan for the coming season is to save all the fine, large virgins from my very best colonies when the afterswarms come forth, and place them in queenless nuclei for mating. Then I will requeen my poorer colonies with these same queens after mating. This is practically the same as Dr. Miller's plan, given to Mr. Adams; only I think it will make a little less work for me. However, if this is going to perpetuate or intensify the swarming propensity I will have to give it up. Mr. Alexander's reasoning looks plausible, but what are the *facts* in the case? Undoubtedly there are quite a good many small or amateur bee-keepers like myself who are interested in this matter.

Last season was very poor here. Bees nearly starved till basswood bloomed when they commenced storing a little, and they continued to store very little until the fall flowers bloomed. During the blooming season of heartsease, the best colonies stored from one to 3 supers of light amber honey of fine flavor, but did not fill the brood-chambers well, and of course, many colonies went into winter quarters short of stores.

Clover is wintering well here, and we may have a better season for the bees this year than last. E. H. UPSON.

Cromwell, Ind., Feb. 22.

Prevention of Afterswarming.

I had some experiences during 1907 that were entirely new to me. For a number of years I have waited for from 5 to 8 days after colonies have cast swarms, and then cut out all but one queen-cell to prevent afterswarms. Last year I practised the same plan on the first 12 swarms, and out of the 12 colonies so treated 6 were queenless and one of the other 6 queens was a drone-layer. After that experience I let the parent hive sit close beside the swarm 4 or 5 days (I have all clipped queens), and moved to a distant part of the yard, and only one colony treated in this way swarmed, and they swarmed in about ½ hour after moving to the new stand. Now, the point is, why so many queen-cells failed to hatch. Was it the cool, rainy weather, or did the young queens fail in getting mated, or did they chill and not get back from their wedding flights? At least, a part of the trouble was the queen-cells, for no less than 3 cells that I hung in nuclei, in West queen-cell protectors, failed to hatch.

There were none of the old cells that held good last year. The usual time to wait after swarming to cut queen-cells is 8 days; but in one hive that I opened 4 days after swarming, 3 cells were already hatched.

Another disagreeable thing we had to contend with during 1907 was robbing. I never saw anything in any previous season equal it. The bees simply went from hive to hive "seeking whom they might devour," and the boss had better keep his veil handy or take a big dose of rheumatism cure, whether he needed it or not. I had a swarm out of No. 31, with a clipped queen. I also had a swarm out of No. 17. Four or five days after, I placed No. 31 next to swarm out of No. 17. A few days after, a swarm issued from No. 31, with a flying queen, as I supposed; but when I walked down to No. 31, I found *another* clipped queen. The next thing to do was to find where the second clipped queen came from—not No. 31. When I came to examine the hive that contained the prime swarm out of No. 17 on the same stand, it was empty. Therefore the swarm, queen and all, out of No. 17 must have gone in No. 31 some time when I wasn't looking.

Another unusual thing in other years, but very common in 1907, you would get only 1-2 or 1-3 of the best of a prime swarm in the hive on the old stand; but they would go in anywhere, part in hives on each side, or possibly in another part of the yard. I had a swarm from a prime swarm that had been hived only about 30 days, and when I examined the hive from which the swarm issued, there was not a cell of honey nor a cell of brood, except 2 queen-cells. I cut those out and put an afterswarm in the hive.

SIDNEY A. PECK.

Northumberland, Pa., Feb. 13.

Winter Brood-Rearing—Over Sixty Years Ago.

In the editorial on page 38, entitled "Brood Rearing In and Out of the Cellar," this statement is made: "The heat in the brood-nest is always the same temperature." Then at the

American Bee Journal

bottom of the article it says that it is warmer in the center of the cluster out-of-doors, than in the cellar. My observation is that there is usually a greater loss of bees in out-door wintering than in the cellar. The incentive is to begin building up sooner, then a warm spell in spring gets the bees to doing something, while in the cellar they would remain quiet.

Sixty-four years ago, my father and an uncle cut down a hollow sycamore tree. Then each cut off a 10-foot log and hauled it home. The hollow was about 6 feet across. They put a floor in the bottom, a floor in the middle, and a roof on top. All being made tight, and painted, the "gums" (as they were called) were set up on end on 4 blocks large enough to hold the weight and not settle in the ground. They stood about 6 inches from the ground. On one side was a small door that a man could crawl in; on the opposite side were 2 one-inch holes bored about 1½ inches apart. A little step was fastened just below these holes for the bees to alight on.

Each of these two primitive bee-keepers made 2 box-hives, which were *something new then.* The first swarms were put into these hives and then put one in each apartment with little blocks under each corner, and set up close to the side where the entrances were in the gum. And now began the strife between these bee-keepers to see which could get the most and the nicest honey.

The first few years they let the bees build comb and put honey wherever they willed. These bees never swarmed, but were inclined to rear brood everywhere. The third year the bee-men made frames similar in principle to the modern clothes-horse, only they were nailed together solid. They cut strips of wood and laid them across from one rest to the other, something like a foot above each other, the whole looking like a new frame for a dwelling house. The old comb was cut out on one side of the original box and this new arrangement set up in its place. Had these bee-keepers understood or known anything about comb-spacing, it seems they would have made a grand success. As it was, the bees were more inclined to build crosswise than any other way, although they got some fine honey, and could get it any time they wished.

The fourth year father made a smaller frame, or rack, than the last described, and set it on top of the original hive with a 2-inch hole bored through the top. In this rack the bees seldom put any bee-bread, and never tried to rear any brood. Many times father would look in at these bees, and especially in the winter. John was mostly there and got to look in too. He (that is John) never tired looking at them. It was the grandest observatory arrangement I ever knew. I believe those bees reared brood the year around. At least there would be dead bees of all ages thrown out on the snow in the winter.

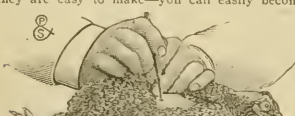
So much for my first experience in bee-keeping, 60-odd years ago. This experience was had near Tiffin, Seneca Co., Ohio.

My bees are in the cellar. It is snowing and very stormy to-day, so I am glad they are under shelter. J. H. SHEDENHELM.

Ladora, Iowa, Feb. 18.

MONEY IN CAPONS.

Why sell a scraggy rooster, all breast-bone and comb, when less feed will produce a fat capon bringing more pounds per fowl and more money per pound? There is no good reason why any one should do so. Capons are remarkably easy to raise, they are easy, very easy to sell at top price. (Did you ever hear of a glut in the capon market?), and best of all, they are easy to make—you can easily become



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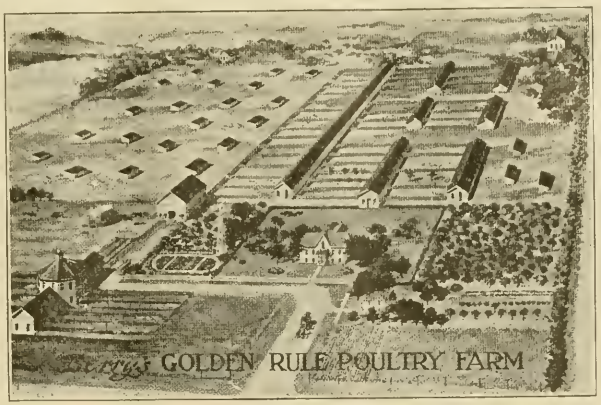
a skilled operator, who does not lose more than one percent of the birds caponized; and if one does die, it dies under the capon knife, and you can have a chicken pot-pie for dinner, so there is no loss if you do kill one or two.

Look up this matter of caponizing, write the old firm of G. P. Pilling & Son., Arch St., Philadelphia, Pa., for their catalog of "Easy to Use" Caponizing Instruments (sent with full directions); get the set you like the best, and put money in your purse. There is money, big money in capons. Why don't you get your share? Please mention the American Bee Journal when writing.



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Souvenir Bee Postal Cards

We have gotten up 4 Souvenir Postal Cards of interest to bee-keepers. No. 1 is a Teddy Bear card, with a stanza of rhyme, a straw bee-hive, a jar and section of honey, etc. It is quite sentimental. No. 2 has the words and music of the song, "The Bee-Keeper's Lullaby;" No. 3, the words and music of "Buckwheat Cakes and Honey;" and No. 4, the words and music of "The Humming of the Bees." We send these cards, postpaid, as follows: 4 cards for 10 cents, 10 cards for 20 cents; or 6 cards with the American Bee Journal one year for 50 cents. Send all orders to the office of the American Bee Journal, 118 W. Jackson Blvd., Chicago, Ill.

Eastern New York Convention

The second semi-annual meeting of the Eastern New York Bee-Keepers' Association was held at Albany, March 12, 1908. There was a good attendance of bee-keepers. Eleven new members were added to the Association. A constitution was adopted and the following committee of 5 appointed to draft by-laws: Stephen Davenport, C. B. Loomis, J. Van Auken, the President and the Secretary. There was considerable discussion on the subjects of apiarian supplies, spring management, etc.

D. A. FRAZIER, *Sec.*

Albany, N. Y.

Apiarian Pictures

We would be glad to have those who can do so, send us pictures of bee-yards, or of anything else that would be of interest along the line of bee-keeping.

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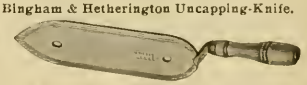

Patented May 20, 1879. BEST ON EARTH.

BEE-SUPPLIES

40-Page Catalog Free. Brimful of the latest make of hives, etc. Our Supplies will please you in every way. Prices are right. We allow the usual early-order discounts. Italian Bees and Queens in season.

JOHN NEBEL & SON SUPPLY CO.,
High Hill, Montg. Co., Mo.
Mention Bee Journal when writing.

Bee-Keepers' Supplies Sold

At the very lowest profit possible

Dovetail Hives, Sections, Etc.—A complete stock bought in car lots. Subscriptions given free with orders. Send for my 32-page catalog free.

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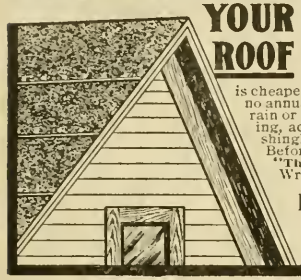
American Bee Journal

INSURE YOUR ROOF



Against Water, Weather and Wear

Use "Vulcanite" Ready Roofing and insure your roof against damage by water, weather and wear. It assures long life to buildings and absolute protection to their contents. For over 60 years its superior qualities have been recognized wherever roofing is used. It is today the recognized standard Ready Roofing of two continents, is cheaper than shingles or tin—lasts longer, requires no annual painting; easily put on—not affected by rain or snow, wet or dry, heat or cold; is fire-resisting, acid-proof and smoke-proof. Put on over old shingles it makes the old roof better than new. Before you build or repair write for free booklet, "The Right Roofing and the Reasons Why." Write today.

Patent Vulcanite Roofing Co., Dept. 48
626-59 S. Campbell Ave., Chicago, Ill.,
or Franklin, Warren Co., Ohio.

Stanley Queen Incubator and Brooder

An arrangement that allows the bees access to the cells and Queens at all times. Patented July 7, 1903. Price, each, $5.00.

Stanley Twin Nucleus Box

An arrangement that has control of the Queen by a 3-hole wheel, with one entrance screened, one hole with queen-excluding zinc, and one hole to regulate entrance. (Patent applied for.) Price, each, $1.00. **Cylinder Cages**, postpaid, each, 10c. **Queen-Cells, 100 mounted**, with sample of Cylinder Cage (sent postpaid,) for 75 cents.

Bees and Queens

Nuclei—One 3 L. frame, $2.50; price of Queen to be added.
Queens—Tested Italian, each, $1.25, or $10 a dozen. Breeding Queens, $2 to each.
I have a few Imported Italian Queens at the same price.
Untested Queens after May 15th—Italian (warranted) 75 cents each; dozen, $7.00. Carniolan, Caucasian and other strains, untested, 75c each, or $7.00 a dozen.

ARTHUR STANLEY, Dixon, Lee Co., Ill.

Italian Bees Direct From Italy

The Best in the World. **Extensive Apiaries.**

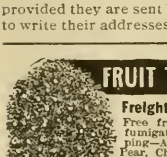
Address: ENRICO PENNA, Bologna, Italy.

1908 PRICE-LIST FOR AMERICA:

	May	June	July	Aug.	Sept.	Oct.
One unselected fertilized Italian queen, (warranted pure)	$1.20	$0.90	$0.90	$0.90	$0.90	$0.90
One selected fertilized Italian queen, (warranted pure)	1.40	1.30	1.30	1.30	1.30	1.30
One extra-selected Italian breeding-queen	2.50	2.50	2.50	2.50	2.50	2.50

Advertisement.—In Italy we have but one race of bees. So all my queens are warranted very pure. I have been keeping bees these last 10 years, and have never had a single case of foul brood (which is scarcely to be found in this country). It is scarcely necessary for me to say that I take every possible care to avoid it. So my customers must never have any fear of contagion from my bees. All my queens are reared from extra-selected breeding queens most carefully tested.

Conditions.—Cash with orders. The queens that die on the journey will be replaced provided they are sent back immediately in their boxes. Purchasers are eagerly requested to write their addresses very clear.



FRUIT TREES $5
Freight Paid, Per 100
Free from disease; all fumigated before shipping—Apple, Peach, Plum, Pear, Cherry, Carolina Poplar. Order here. Catalog Free.
RELIANCE NURSERY CO.,
Box G, Geneva, N. Y.

BEST SECTIONS— Per 1000, $4; 3000, $3.70; 5000, $3.50 per 1000. No. 2, 50c less. Plain, 25c less. Discount on Danz. and Root's hives and other supplies. Standard goods. Catalog free. **H. S. DUBY, St. Anne, Ill.** 3A2t

Mention Bee Journal when writing.

ITALIAN BEES AND QUEENS, SUPPLIES A. I. Root's Standard Goods. Ask for Circulars.
ALISO APIARY, El Toro, Orange Co., Calif.

Mention Bee Journal when writing.

The **Maule Seed Book** FOR 1908 contains 63 Specialties in Vegetables, 69 in Flowers, besides everything else good, old or new, worth growing.

You need it.

It is free to all sending me their address on a postal.

Wm. Henry Maule 1732 Filbert Street Philadelphia, Pa.

Mention Bee Journal when writing.

COWS' RELIEF

Cows' Relief is a specific Remedy for all troubles of bag and teats. It enables dairymen, farmers and other cow owners to keep their cows in a healthy and profitable condition.

Cows' Relief is one of the most perfectly penetrating and disinfecting compounds in existence. It goes directly to the seat of the trouble, relieves the congestion and breaks up the bunches that prevent a natural flow of milk.

Twelve to twenty-four hours' time is all that is required to relieve any case of Caked Bag, if applied freely at the beginning of the trouble. It is excellent

FOR SORE TEATS

For heifers with first calf Cows' Relief works in a most pleasing, prompt and successful manner. It relieves the soreness and swelling in the bag and is worth its weight in gold to every dairyman. It keeps the teats soft and flexible, and renders the animal quiet and docile.

H. C. Rice, Farmington, Conn., says: "Please send me two boxes of Cows' Relief. Enclosed find check for same. Please send at once. I wouldn't be without it in my stable."

L. F. Cuthbert, Hammond, N. Y., says: "I have used your Cows' Relief and find it a very valuable remedy for Caked Bag."

We have scores of testimonials like the above. Ask your dealer for Cows' Relief and insist on having the genuine. If he cannot supply you write direct to us, enclosing $1 for large package prepaid, (enough for four or five ordinary cases). Your money back if you are not satisfied. Positive guarantee on every package. Or send your name and one neighbor's who keeps cows, stating how many you each have, and we will send our book concerning "Cow Troubles," also Goldine Cow Watch Charm FREE while they last.

OUR HUSBANDS MFG. CO.,
716 Chapel St., Lyndon, Vt.

Mention Bee Journal when writing.

American Bee Journal

Now Ready

The 97th edition of our catalog is now ready. If you have not received a copy and are ready to place an order for any supplies write for a copy. Our mailing list has over 400,000 names, so time is required to get the entire edition mailed. We explain this so any one may understand why a catalog may not reach him early.

The A B C of Bee Culture

When we announced the completion of the new edition late in 1907 there was a good deal of satisfaction to notice the big bunch of orders on hand, although we did regret the unavoidable delay in getting the books to some customers who had waited patiently for months. Over two thousand copies of this edition have already been sent out. We believe all urgent orders have been filled. We felt that the change of price to $1.50 postpaid might cause a little slackening in the demand. Not so, however, for in all our experience the orders never came faster.

We have also of the English edition a half leather at $2.00 and full leather at $2.50, postpaid.

German Edition, A B C der Bienenzucht in paper covers, $2.00. Cloth-bound at $2.50, postpaid, to any country.

French Edition, A B C de L'Apiculture, cloth-bound, at $2.00, postpaid, to any country.

Gleanings in Bee Culture

If you haven't seen a late copy of Gleanings you can't tell from any brief description how really magnificent it is. There are many valuable departments, and our subscribers just at this season of the year are telling how much they appreciate the paper.

Each issue is very fully illustrated. The covers are done by the finest engravers in Chicago, and our writers are the best in the land. Besides dozens of writers of prominence whose names we can't even mention for lack of space, we have such men as Dr. E. F. Phillips, U. S. Dept. of Agriculture; Dr. Edward F. Bigelow, Associate Editor St. Nicholas; F. Dundas Todd, former Editor Photo-Beacon; Allen Latham, Connecticut, etc.

A trial of six months (12 numbers) costs 25c. If in addition to your own subscription you secure others for six months keep 10c on each one for your trouble. A liberal cash commission to those who do canvassing for us.

Gasoline Engines and Power Honey Extractors

For large apiaries, or where the honey comes with a rush and labor is scarce, you should investigate our power machines. A circular of these will be sent on request.

THE A. I. ROOT COMPANY, MEDINA, OHIO

BETTER THAN SHINGLES —AND CHEAPER

Shingles are getting so scarce and of such poor quality that builders everywhere are using **"Vulcanite" Roofing** in their place. It makes a splendid roof, wears longer than shingles or tin, looks better, is easier and quicker laid; much cheaper and does not warp or rot. For a thoroughly reliable, durable, economical roof **"Vulcanite"** solves the roofing problem. It is the standard **Ready Prepared Roofing** in this and foreign countries—for over 60 years it has been used on all kinds of buildings so successfully that its sale is increasing at a wonderful rate. Once laid the roof expense stops—it does not require annual painting. Before you build or repair get our **free** booklet, **"The Right Roofing and the Reasons Why,"** tells why you should buy **"Vulcanite"**—the kind that's right. Write for it today.

Lasts Longer — Looks Better — Easier, Quicker Put On

PATENT VULCANITE ROOFING CO.,
Dept. 48, 626-59 So. Campbell Ave., Chicago, Ill.
or Franklin, Warren Co., Ohio.

United POULTRY SUPPLIES

Poultry-raisers have found that the better the incubators and brooders they use, the better the foods they feed, the more money they make, and the more pleasure they get out of their fowls. We want to supply you with the better incubators and brooders, foods and supplies. We manufacture and market the best goods in the world in our line. The **"United"** Incubators and brooders—standard the world over, and favorites with poultry people—are our leaders in the machine line. **"Banner"** and **"Fidelity" Foods** need no argument to convince you of their merits.

We manufacture and guarantee them. By buying all your supplies at one place you will save on freight, and will always get a quality you can depend on. Send us your orders and save money. Before you buy elsewhere write for our **free** catalogs. Do it to-day.

United Incubator & Poultry Supply Mfg. Co., Dept. 27
26-28 Vesey St., N. Y. City.

A FREE ROSE GARDEN FOR EVERY HOME

Our Star Collection Free

Helen Gould—rosy-crimson. **Mamun Cochet**, Queen of pink tea. **Etoile de Lyon**, deep golden yellow. All constant bloomers and delightfully fragrant. Send 25 cents to cover packing and postage; we will mail you three choice climbing roses, Red, Yellow and Pink, and will include our Star Collection FREE. Catalog with every order. Other Rose Bargains. $50 in prizes. **Binghamton Seed Co.**, 300 Court St., Binghamton, N. Y.

The American Institute of Phrenology

Incorporated 1866, by special act of the New York Legislature, will open its next session the first Wednesday in September. The subjects embraced: Phrenology, Physiognomy, Ethnology, Psychology, Physiology, Anatomy, Hygiene and Anthropology. For terms and particulars apply to M. H. Piercy, Sec., care Fowler & Wells Co., 24 East 22d St., New York, N. Y.

Headquarters for Shook Swarms, until May 15 (buyer furnishes cases) at $1.50 f. o. b.—2 frames brood, enough to cover 4 frames, with queen. **A. B. DUNCAN, Argyle, On.**

BARNES' Foot-Power Machinery

Read what J. I. Patent, of Charlton, N. Y., says: "We cut with one of your Combined Machines, last winter, 50 chaff hives with 7-in. cap, 100 honey-racks, 500 brood-frames, 2,000 honey-boxes, and a great deal of other work. This winter we have double the amount of bee-hives, etc., to make, and we expect to do it with this Saw. It will do all you say it will." Catalog and price-list free.

Address, **W. F. & JOHN BARNES,**
995 Ruby St., Rockford, Ill.

American Bee Journal

Fall Supplies

—FOR—

Bee-Keepers

Everything you want. All made by us in our own factories. At Lowest Prices.

THE AMERICAN BEE-KEEPER, a monthly at 50c a year. Published 17 years.

Sample copy and illustrated catalog and price-list **FREE.** Address,

THE W. T. FALCONER MFG. CO.,

Dept. B. JAMESTOWN, N. Y.

HONEY

We have some fine, thick white extracted honey, 2 cans to a case, 124 lbs. at 9 cts. a lb., 5 cases 8¾ cts. lb., 10 cases 8½ cts. lb. Sample 10 cts.

HONEY-JARS

No. 25 jar $5.50 gross, 5 gross $5.25 gross. 1 lb square jars $5.00 gross. Catalog of supplies free

I. J. STRINGHAM,
105 Park Pl., N. Y. City

APIARIES, Glen Cove, L. I.

Mention Bee Journal when writing.

Headquarters for Bee-Supplies

ROOT'S GOODS

At Root's Factory Prices

LARGE DISCOUNTS OFFERED ON EARLY ORDERS. Have a large stock on hand, and can supply promptly. Freight Rates from CINCINNATI are the LOWEST, ESPECIALLY FOR THE SOUTH

As almost all freight now goes through Cincinnati. You will save money buying from me. Catalog mailed free. Send for same.

WILL BUY OR SELL YOU

HONEY

IF YOU HAVE ANY TO SELL

mail sample and state lowest price expected delivered Cincinnati. If you want to buy, state quality and quantity and I will cheerfully quote you price.

Beeswax Wanted

Will pay, at all times, highest market price on receipt of goods.

C. H. W. WEBER

CINCINNATI ...OHIO...

Office and Salesrooms, 2146-48 Central Ave. Warehouses, Freeman and Central Aves.

Honey and Beeswax

CHICAGO, Mar. 30.—There is very little activity in the honey market. It has been a dragging one all winter, and the offerings are in excess of the demand of both comb and extracted. Prices are lower rather than higher, especially is this true of the Colorado and Utah products. Comb honey, No. 1 to fancy, 15 to 16c; off grades from 1 to 5c less. Extracted, white, ranges from 7 to 9c, according to the kind and quantity taken. Amber grades, 6 to 7c. Beeswax, 28 to 30c. R. A. BURNETT & CO.

CINCINNATI, Mar. 30.—The market on comb honey is very quiet. There is no demand. Extracted honey is in good demand. Water-white sage honey is selling at 9 to 10c. Amber in barrels at 6 to 6½c. Beeswax in fair demand at 32c. C. H. W. WEBER.

SAN FRANCISCO, April 1.—In reference to quotations on honey, we would say that spot stocks are so light it is not much use quoting. There are 1 or 2 cars in Southern California which are held by the apiarists at 6 1-2c, which is the only honey we know of left in the State. It will therefore be seen that it would be useless to give present market quotations since there is really no honey quotable. GUGGENHIME & CO.

DENVER, Mar. 3.—Market on comb honey is slow, and prices declining. We quote to our trade No. 1 white, per case of 24 sections, $3.00; No. 1 light amber, $2.85; No. 2, $2.70. Extracted, white, 8 to 9c; light amber, 6¾ to 7 1-2c. Clean yellow beeswax 25c delivered here.

THE COLO. HONEY-PRODUCERS' ASS'N.

LOS ANGELES, April 1.—The prospects for a honey crop in Southern California this season are very poor. Unless we have considerable rain within the next 2 months there will be no honey at all. The present prices on extracted honey are 6 to 7 1-2c. Comb honey 12 1-2 to 18c. There is very little honey left on the market here.

H. J. MERCER.

TOLEDO, Mar. 30.—There is very little change in the market on honey. Fancy white honey brings from 16 to 16½c in a retail market; no demand for lower grades. Extracted, white honey in cans, 8½ to 9c; amber, 5½ to 6½c, according to quality. Beeswax, 26 to 28c.

GRIGGS BROS. & NICHOLS CO.

KANSAS CITY, Mo., Mar. 30.—The demand for both comb and extracted honey is fair; the receipts not large. It is getting a little late for 1907 comb on account of its being liable to granulate. We quote: No. 1 white comb, 24 section per case, $3.00; No. 2 white and amber, $2.75. Extracted, white, 7½c. Beeswax, 25c. C. C. CLEMONS & CO.

INDIANAPOLIS, Mar. 28.—Demand for best grades of extracted honey is good, while sales on comb honey are very slow. Jobbers are well supplied, but almost none is being offered by producers. Jobbers have been paying the following prices, delivered here: No. 1 and fancy comb, 16 to 17c; extracted, white clover, 8 to 9c; amber in barrels, slow at 6 to 6½c. Beeswax, 28c cash, or 30 cents in exchange for merchandise. With the promise of a fair crop, jobbers are predicting slightly lower prices.

WALTER S. POUDER.

PHILADELPHIA, Mar. 30.—The sale of both comb and extracted honey has been very light since the holidays until last week, when the stock in the stores was cleaned out somewhat, and there has been quite a demand for honey. Prices, however, seem weak, and large lots are being forced through the commission men from beekeepers who have been holding their honey back for better prices. We quote: Fancy comb honey, 15 to 16c; No. 1, 14 to 15c; amber, 12c. Extracted honey, fancy white in 60-lb. cans, 8½ to 9½c; light amber, 7 to 8c. Beeswax, 28c. We do not handle honey on commission. WM. SELSER.

NEW YORK, Mar. 30.—Demand for comb honey is next to nothing. Some little inquiry for choice white stock, while off grades are entirely neglected, and while there are no large stocks on hand, and with no demand at all, indications are that some of these goods will have to be carried over the summer. Prices are certainly nominal, and we cannot encourage shipments of comb honey at this time of any grade. Extracted honey, demand fair only, but plenty to supply. While the domestic crop is fairly well cleaned up large quantities are now arriving from the West Indies, and selling at rather low figures. We quote: California white sage, 8¼ to 9c; light amber, 8c; amber 7 to 7½c; West Indies, 58 to 62c per gallon, duty paid according to quality. From information we are receiving we are of the opinion that there will be a pretty good crop in the South this year, and we expect shipments to come along within a month from now. Beeswax is firmer, and holding steady at 30 to 31c. HILDRETH & SEGELKEN.

HONEY AND BEESWAX

When consigning, buying, or selling, consult

R. A. BURNETT & CO.

199 South Water St Chicago, Ill

Our New Headquarters

We have moved our business from **Redford** to **Lansing,** and are now equipped to supply you with **"Root Quality" Goods** to the very best advantage to you. We have a **Complete Stock,** and ours is the **best shipping point in the State.** Address your letters, and ship **Beeswax** to us here.

M. H. HUNT & SON,

Lansing, Michigan

BEE-SUPPLIES Sold at half-price. Send us a list of your wants. Estimates cheerfully given.

J. F. BUCHMAYER, Dept. B. J., Iowa City, Ia.

American Bee Journal

MR. BEE-KEEPER

Was 1907 a POOR YEAR for you?
It was a GOOD YEAR for users of

Dadant's Foundation

One dealer used - - -	14,000 pounds	Another dealer used - -	4,500 pounds
Another dealer used - -	7,250 "	Another dealer used - -	4,500 "
Another dealer used - -	6,000 "	Another dealer used - -	4,500 "
Another dealer used - -	3,000 pounds		

Thousands of pounds sold to the bee-keeper direct or worked up for him out of his beeswax.
The *dealer* likes *Dadant's Foundation* because the bee-keeper likes it.
The bee-keeper likes it because his *bees* like it.
The *bees* like it because it is exactly like their own comb—so *pure* and *sweet* and *clean.*
Dadant's Foundation is the Standard because it is the *best.*
Wax worked into Foundation. Send for our Supply Catalog.

DADANT & SONS, Hamilton, Illinois

Mend Your Own HARNESS

Put the money you would pay the repairman in your own pocket and use Myers Lock Stitch Awl instead. It stitches like a sewing machine and will mend harness, saddles, fur coats, robes, shoes, gloves, canvas, carpets, etc. Something you and your neighbors need every day and costs only $1.00 prepaid. You can secure the agency in your locality and make money. One agent sold 100 in 4 days. Write for booklet 42

C. A. MYERS CO.
6537 Woodlawn Ave., Chicago, Ill.

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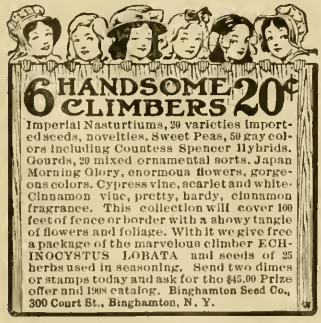

6 HANDSOME CLIMBERS 20¢

Imperial Nasturtiums, 20 varieties imported seeds, novelties, Sweet Peas, 50 gay colors including Countess Spencer Hybrids. Gourds, 20 mixed ornamental sorts. Japan Morning Glory, enormous flowers, gorgeous colors. Cypress vine, scarlet and white. Cinnamon vine, pretty, hardy, cinnamon fragrance. This collection will cover 100 feet of fence or border with a showy tangle of flowers and foliage. With it we give free a package of the marvelous climber ECHINOCYSTUS LOBATA and seeds of 25 herbs used in seasoning. Send two dimes or stamps today and ask for the $5.00 Prize offer and 1908 catalog. Binghamton Seed Co., 300 Court St., Binghamton, N. Y.

Mention Bee Journal when writing.

Big Profits in Capons

Caponizing is easy—soon learned. Complete outfit with free instructions postpaid $2.50.

Gape Worm Extractor 25c
Poultry Marker.....25c
French Killing Knife 50c
Capon Book Free.

G. P. Pilling & Son Co., Arch St., Philadelphia, Pa.

MAKE YOUR OWN CUT GREEN BONE

It's a very easy, simple operation with a CROWN Bone Cutter. Green bone makes eggs, and stimulates the hen's productive organs. Cut bone fresh every day. The Crown does it quickly with no bother or muss. 25 years building cutters. Write for free catalog.
WILSON BROS., Box 618, EASTON, PA.

BEE-KEEPING ON THE FARM

Double Your Colonies

Honey is high—short crop last year.

The shortage of the honey crop for 1907 in the United States warrants bee-keepers to increase their colonies. About a half crop was produced, and in California, where the cheap honey comes from, only a quarter of the average crop was produced.

Get Ready Now for More Honey

Let us send you our catalog. We are manufacturers, and sell only our own make of bee-supplies. Minneapolis is the largest lumber distributing point; the Mississippi River furnishes us power, and our organization and labor conditions are the best for economical production. Send us an estimate of your requirements and let us give you prices. We have a large stock of standard bee-supplies on hand—

Dovetailed Hives, Sections, Section-Holders, Separators, Brood-Frames, Comb Foundation, Smokers, Extractors, Shipping-Cases, etc.

MINNESOTA BEE SUPPLY CO., 52 Nicollet Island, Minneapolis, Minn.

48th Year
No. 5

May, 1908

50c. a Year
5c. a Copy

AMERICAN BEE JOURNAL

THREE-BAND ITALIAN QUEEN-BREEDING YARD OF JOHN M. DAVIS.

CARNIOLAN BEE-YARD OF JOHN M. DAVIS, OF MAURY CO., TENN.—See page 136.

THE AMERICAN BEE JOURNAL

PUBLISHED MONTHLY BY

GEORGE W. YORK & COMPANY

118 W. Jackson Blvd., Chicago, Ill.

IMPORTANT NOTICE.

THE SUBSCRIPTION PRICE of this Journal is 50 cents a year, in the United States of America, (except Chicago, where it is 75 cents), and Mexico; in Canada 60 cents; and in all other countries in the Postal Union, 25 cents a year extra for postage. Sample copy free.

THE WRAPPER-LABEL DATE indicates the end of the month to which your subscription is paid. For instance, "dec08" on your label shows that it is paid to the end of December, 1908.

SUBSCRIPTION RECEIPTS.—We do not send a receipt for money sent us to pay subscription, but change the date on your wrapper-label, which shows that the money has been received and credited.

Advertising Rate, per Agate Line, 15c.

14 lines make one inch.

Nothing less than 4 lines accepted.

DISCOUNTS:

3 times 14c a line 9 times 11c a line
6 " 12c " " 12 " (1 yr.) 10c a line

Reading Notices, 25 cents, count line.

Ooes to press the 6th of each month.

National Bee-Keepers' Association

Objects of the Association.

1st.—To promote the interests of its members.

2d.—To protect and defend its members in their lawful rights.

3d.—To enforce laws against the adulteration of honey.

Annual Membership Dues, $1.00.

General Manager and Treasurer—
N. E. FRANCE, Platteville, Wis.

☞ If more convenient, Dues may be sent to the publishers of the American Bee Journal.

"Songs of Beedom"

This is a pamphlet, 6x9 inches, containing 10 songs (words and music) written specially for bee-keepers, by Hon. Eugene Secor, Dr. C. C. Miller, and others. They are arranged for either organ or piano. The list includes the following: "Bee-Keepers' Reunion Song;" "The Bee-Keeper's Lullaby;" "The Hum of the Bees in the Apple-Bloom;" "The Humming of the Bees;" "Buckwheat Cakes and Honey;" "Dot Happy Bee-Man;" "Bee-Keepers' Convention Song;" "The Busy, Buzzing Bees:" "Spring-Time Joys;" and "Convention Song." The pamphlet is mailed for 25 cents, or sent with the American Bee Journal one year—both for only 60 cents. Send all orders to the American Bee Journal, 118 W. Jackson, Chicago, Ill.

Western Bee-Keepers We Will Show You how to save money. Send for our new catalog of the best Bee-ware made.

THE COLORADO HONEY-PRODUCERS' ASS'N, Denver, Colo.

Tennessee-Bred Queens

All from extra-select mothers, Davis' Best, and the best money can buy

3-band and Golden Italians bred 3¼ miles apart, Carniolans 5, Caucasians 7 miles away

THREE-BAND AND GOLDEN ITALIANS							
	November 1st to July 1st			July 1st to Nov. 1st			BREEDERS
	1	6	12	1	6	12	
Untested	$1.00	$5.00	$ 9.00	$ .75	$ 4.00	$ 7.50	Straight 5-band $10.00
Select Untested	1.25	6.50	12.00	1.00	5.00	9.00	Select Golden 4.00
Tested	1.75	9.00	17.00	1.50	8.00	15.00	Select 3-band 4.00
Select Tested	2.50	13.50	25.00	2.00	10.00	18.00	Select Carniolan 5.00
							Select Caucasian 5.00

Untested Carniolan and Caucasian, $1.25 each; 6 for $7.00; 12 for $12.00.

Nuclei, without queens: 1-frame, $2.50; 2-frame $3.50; 3-frame $4.50. 1 Full Colony, 8-frame $9.00.

Select the queen wanted and add to the above prices.

NOTE

I have transferred to my son, Benj. G. Davis, my straight 5-band and Golden department, and in order to receive the promptest attention, all correspondence for these should be sent direct to him. He practically grew up in my queen yards, rears queens by my methods, has had charge of this department for years, and understands his business. No bee-disease.

JOHN M. DAVIS, Spring Hill, TENNESSEE, U. S. A.

A Standard-Bred Italian Queen-Bee

For a number of years we have been sending out to bee-keepers exceptionally fine Untested Italian Queens, purely mated, and all right in every respect. Here is what a few of those who received our Queens have to say about them:

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Nemaha, Co., Kan., July 15, 1905.

✣✣✣

GEORGE W. YORK & CO.:—After importing queens for 15 years you have sent me the best. She keeps 9¼ Langstroth frames fully occupied to date, and, although I kept the hive well contracted, to force them to swarm, they have never built a queen-cell, and will put up 100 pounds of honey if the flow lasts this week. CHAS. MITCHELL.
Ontario, Canada, July 22, 1905.

✣✣✣

GEORGE W. YORK & CO.:—The queen I bought of you has proven a good one, and has given me some of my best colonies. N. P. OOLESBY.
Washington Co., Va., July 22, 1905.

✣✣✣

GEORGE W. YORK & CO.:—The queen I received of you a few days ago came through O.K., and I want to say that she is a beauty. I immediately introduced her into a colony which had been queenless for 20 days. She was accepted by them, and has gone to work nicely. I am highly pleased with her and your promptness in filling my order. My father, who is an old bee-keeper, pronounced her very fine. You will hear from me again when I am in need of something in the bee-line. E. E. MCCOLM.
Marion Co., Ill., July 13.

We usually begin mailing Queens in May, and continue thereafter, on the plan of "first come first served." The price of one of our Untested Queens alone is 75 cents, or with the monthly American Bee Journal one year—both for $1. Three Queens (without Journal) would be $2.10, or 6 for $4.00. Full instructions for introducing are sent with each Queen, being printed on the underside of the address-card on the mailing-cage. You cannot do better than to get one or more of our fine Standard-Bred Queens.

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This should be a good time to get new subscribers for the American Bee Journal. On another page we offer a number of premiums for such work. We hope that as many of our present readers as possible will help us to increase our subscription list. The more intelligent bee-keepers are, the better it will be for all intrested in the business. And much of that intelligence is secured by reading. We will be pleased to send free sample copies on request. Shall we not be favored with a large increase of new subscriptions during the next 2 or 3 months?

American Bee Journal

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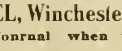

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3Atf **S. D. BUELL, Union City, Mich.**

ITALIAN QUEENS—from direct imported mothers—red clover strain, $1.00. Circular.
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Prices before July 1	1	6	12
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Full colonies on eight frames	6 00	30 00	

Add price of whatever grade queen is wanted with nucleus or colony. Bees ready about May 10th, Danzy or L. frame. Safe arrival guaranteed. Free circular and testimonials. 4atf

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One Untested Queen.....$ .90
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Safe arrival guaranteed. For prices on larger quantities and description of each grade of queens, send for price-list.

All queens by return mail. A few hundred pounds of **Comb Foundation.** Send for sample and price.

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Untested Italian queens in lots as follows:
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One fr., $1.75; Two fr., $2.25; Full Col. $4.75.
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The above queens are all reared from the very best selected red clover Italian queens. Orders filled by return mail. **Dealer in Bee-Keepers' Supplies.**

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Select Untested Queens, $1; 6 for $5; 12 for $9. Carniolan, Banat, Caucasian Queens; Select, $1.25; 6 for $6; 12 for $10. Tested, any race, $1.50; 6 for $8. Choice Breeders, $3.50. Circular free.

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The book is bound in substantial cloth, gold-lettered, and is sent postpaid for only $1.00; or with the American Bee Journal one year for $1.25. (Or send us 4 new subscriptions to the Bee Journal—with $2.00—and we will mail you the book free as a premium.) Every bee-keeper ought to have both the book and the Bee Journal, if not already possessors of them.

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TEXAS QUEENS

The famous honey producers are well in the lead. I am booking orders now for April, May and June deliveries—**Italians, Carniolans, Goldens** and **Banat Queens.**

Prices either race: Untested, 75c each; $8.00 doz. Choice Tested, $1.25 each; $12.00 doz. Choice Breeders, $3.00 each. Circular for your address. 2-1f

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Finest made. 1-story, 5 8-fr. for $4.50; 10-fr. for $4.95. 1½-story, 5 8-fr for $6; 10-fr. for $6.45. 2-story, 5 8-fr. for $7; 10-fr. for $7.95.

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Italian Queens by return mail. Tested, $1.00 each or $11.00 per doz. Untested, 75 cts. each or $8.50 per doz. My bees are three-banded hustlers.

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Ready for delivery April 1st. Select Untested Queens, $1 each; Tested Queens, $2; Select Tested, $3. You can get only good Queens from the South in the early spring. Book your orders NOW.

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FOR SALE AT A BARGAIN

90 8-frame Brood-Chambers
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All in good condition. No disease. Address,

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GEORGE W. YORK, Editor | CHICAGO, ILL., MAY, 1908 | Vol. XLVIII—No. 5

Editorial Notes and Comments

The National Convention at Detroit

It seems to us that it needs only a good honey crop to insure the largest and best gathering of bee-keepers this country ever saw, next Oct. 13, 14, and 15, at Detroit, Mich. Surely Secretary Hutchinson is doing his part to get up an interesting and profitable program. The Michigan State Bee-Keepers' Association is also putting forth special effort not only to insure a large attendance at its own meeting, but also that of the National. The Michigan State bee-keepers will hold their annual meeting at the same time and place.

We hope that all who can do so will try to arrange their work so as to attend the National convention. Mr. and Mrs. Hall, of Iowa, who were at the Denver National convention, expect to be at Detroit. It will be a fine opportunity for every bee-keeper who is so fortunate as to have a wife, to take her next October to the great annual "beefest," where it is expected that there will be such a "swarm" of the apiarian clans as heretofore has not been thought possible. Let's all go to the "big beemeetin'."

Bee-Keeping in New Zealand

We have received a letter from Mr. W. B. Bray, of New Zealand, who has been appointed inspector of apiaries for the South Island of New Zealand. A law was passed in 1906, but under it the box-hive was safe unless it could be shown that it contained disease. The three words—"which are diseased"—spoiled the whole law, so in 1907 the bee-keepers made a fight for it and secured the present law, a copy of which Mr. Bray has sent us.

Mr. Robert Gibb is the other inspector, taking the North Island. Mr. Gibb was secretary of the Southland Bee-Keepers' Association, while Mr. Bray was secretary of the Canterbury Bee-Keepers' Association. There are two other organizations of bee-keepers in New Zealand—the Hawkes Bay and Waikato.

Mr. Bray has promised to send for publication occasional items of interest to bee-keepers from his part of the globe. We doubt not that he will prove to be an ideal inspector, and do his part in getting rid of the bee-diseases in his jurisdiction.

Honey Crop Reports for 1908

The honey crop prospects for this year that have come into this office agree exactly with those that have been sent in elsewhere, a good sample of which is the following taken from Gleanings in Bee Culture for April 15:

"We have just gone over a large number of reports that have accumulated within the last few days. The prospects for a good honey crop are favorable.

"For the North the winter has been mild, and spring not so early as to start brood-rearing out of season to be chilled later on.

"Reports from California are somewhat conflicting. Early in the spring bountiful rains had come, seeming to insure a good honey crop; but since that time conditions have been less favorable in some sections. As it is, we judge there will be from a light to a fair crop; and should the situation change for the better, the crop may be a good one.

"Conditions are exceedingly good for a flow in Texas. It begins to look as if the Lone Star State would redeem its reputation. Its bee-keepers could once boast of a certain crop year after year; but during the last two years it has been a failure in many sections.

"Reports from other portions of the South are favorable. It is too early to predict any results in the central and northern States."

The Canadian Bee Journal for April contains this paragraph:

"Reports that have come to us thus far give the pleasing assurance that bees are coming out of winter quarters in splendid shape. It is to be hoped that the weather from now on will be favorable for rapid breeding. The heavy and continued snow of this winter, and its manner of melting this spring, was most favorable to the hay and clover crop, in that the frost has not done much heaving, the snow remaining as a protection right up almost to the first of April. The indications all point to a bumper year."

We hope that the "bumper year" for bee-keepers indicated in Canada for 1908 may not only be realized there, but that it may extend all over the United States and other lands as well. The "lean years" in bee-keeping have become rather monotonous of late, and somewhat discouraging, but perhaps 1908 may be the beginning of the "fat years" that honey-producers have been hoping for so long.

Shallow Hives and Pollen in Sections

One objection that has been urged against hives with shallow frames is that bees are more likely to store pollen in sections over them than over deeper hives. Discussing this subject, Editor Hutchinson says this in the Review:

"Actual experience, however, is worth a whole lot of theorizing. I have used brood-frames 12 inches square, also the Langstroth frame, and the Heddon frame which is only a little over 5 inches deep. I never had any pollen stored in the sections in using the frame 12 inches square. With the Langstroth frame I have had some pollen stored in the sections, but it was not a serious matter. With the Heddon frames, extra precautions had to be taken, or there were whole supers of sections spoiled by pollen. For instance, a super filled with sections having partly drawn combs, that is, dry combs with no honey in them, could not be given immediately to a

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swarm hived on starters only in one section of a Heddon hive, without the sections being plugged full of pollen. I found that there must be *honey* as well as combs in the sections, or else I must wait about putting on the super until some combs were built and a brood-nest established. This was the case when hiving swarms in one section of a Heddon hive, but very seldom happened when using the Langstroth hive.

"With an established brood-nest in two sections of a Heddon hive, I don't know as I was ever troubled with pollen in the sections, but it often happened when using only one section in this manner."

New Zealand Honey in Europe

The New Zealand government proposes to make a representative display of the Dominion's honey at the forthcoming Franco-British Exhibition to be held in London. The Department of Agriculture has collected a large number of samples in suitable jars, and these will be displayed on a stand in the New Zealand Court.

Confinement of Heat in Brood-Nest

O. S. Rexford says this in the American Bee-Keeper:

"Some things have been said in several bee-papers giving the impression that the winter cluster of bees retains all or nearly all the animal heat and does not warm the space around the cluster to any extent, even within the hive."

He then gives details of an experiment. A colony had over it a double glass cover with a ½-inch space between the 2 glasses, and over this was placed a thermometer. This thermometer stood at 38 degrees above zero Jan. 31, when the temperature outside the hive was 12 below. Another thermometer over the brood-frames and under the glass, at the farthest side from brood-nest, showed 34 above. Still another thermometer, in the outside packing, showed 26 degrees. He concludes thus:

"I had supposed it was an accepted fact that a cluster of live bees gave off more or less heat at all times, and that a hive with a small entrance could be so protected that the temperature could be raised by the bees in the whole hive just as surely (but not of course to the same extent) as the temperature in a room can be raised by a fire in a stove.

"And I must say that the test I have made confirms me in this belief."

Giving Swarms to Weak Colonies

Wm. W. Case, in Gleanings, gives a plan of dealing with swarms and weak colonies. In an apiary of 100 colonies, say there are 25 very strong, and 25 weak. When the first strong colony swarms, go to the strongest of the weak colonies, remove the queen and cage her.

"Now hive the swarm *right into this weak colony* and give plenty of room for surplus. As all the bees are well filled with honey there will rarely be any dispute. This poor worthless colony has now become, like magic, one of the very best in the apiary, and possesses every requirement for yielding a large surplus, viz., a medium amount of brood, a large force of field bees stimulated by having swarmed, a good force of nurse bees already in the hive and a first-class queen. Such a colony will rarely swarm again during the season, as, by the time they are again gorged with brood, the honey-flow will generally be so far advanced as to discourage further swarming.

"Now to return to the hive from which the swarm issued. Next day about noon, when the new field bees are out foraging, smoke the bees; and, if you have time, remove all queen-cells and turn the queen taken from the weak colony loose on the combs. She will be accepted ninety-nine times out of a hundred, and no questions asked. If rushed for time, just turn her loose on the combs anyhow, and she will take care of the queen-cells herself."

As each strong colony swarms in turn, repeat the process, each time giving the swarm to the strongest of the remaining weak colonies.

Birds and Bees in the South

"Why it is that bees are so slow to build up and to keep up to a honey-gathering point in early spring, in most locacations in the South, is a mystery to many bee-keepers," says J. J. Wilder in the American Bee-keeper. He thinks the birds are the culprits, drawing on the bees to fill out their menu when other insects have not yet become sufficient for the purpose. Powder and shot he has found the only effective remedy.

Protecting Hives with Paper

Some think well of tarred paper, which is dark, for covering hives in spring, but in some cases, it does not work well. E. D. Townsend in Gleanings, reports that in the spring of 1906, S. D. Chapman wrapped every other hive in his home apiary of 200 colonies, after they were taken from the cellar, with tarred paper.

"The ones that were covered with the tarred paper absorbed the heat from the sun to such an extent the bees were lured from the hives on days that were too cold for them to fly. This meant that the colonies in the papered hives at the beginning of the honey-flow in June were not nearly so far advanced as those in hives that were not protected. In view of this, Mr. Chapman has decided that no extra protection is needed if the yard is well sheltered from the winds, and if the hive-covers can be well sealed the previous fall."

In his own practice, Mr. Townsend uses white felt building-paper, which is so cheap that he can throw it away after using it once.

"White paper does not cause the hive to become so excessively hot when the sun shines as the black paper does; and if it has been well folded down and fastened at the bottom of the hive the bees are kept as warm as is necessary. Colonies so protected went through the severe freeze of May 10, 1906, without the loss of a particle of brood, while many colonies in hives not papered lost heavily, and some of these were so greatly reduced that they were able to gather no surplus honey that season. Generally speaking, night is the time when the extra protection is needed, for the air during the day is warm enough. Since white paper at night is just as good in all respects as the black, it is obvious that it is the better material to use, since it does not absorb the heat of the sun during the day and make the hive too hot."

Prevention of Bees' Drifting

When bees are taken from the cellar in the spring, there is often a tendency toward drifting, many bees from other colonies joining one or more particular colonies that fly in force. It seems to be pretty generally agreed that this may be prevented by making the entrances of all hives quite small as soon as they are set on their stands.

Requeening Colonies Annually

There is no small difference of opinion as to whether it is best to leave the renewal of queens entirely to the bees, or for the bee-keeper to take it in hand. Also, among those who think the bee-keeper should take it in hand, there is a difference of opinion as to whether a queen should be replaced when a year old, or when 2 years old.

It is a somewhat serious matter either to buy or to rear queens and introduce them every 2 years, and the matter is still more serious if it is to be an annual affair. But S. D. Chapman gives in the Bee-keepers' Review a plan so simple and easy that the objection advanced does not stand in the way. He says:

How We Requeen.

We will take 100 colonies as a basis. About one week before the close of the raspberry flow, one of my helpers and myself will go to this yard, and take away all of the queens except about 5. These are my breeding queens, and are used the following year to rear drones for next season's use; and, by the way, the following spring, the first time I look over my colonies, I put into these 5 colonies enough drone-comb to make one frame of drone-comb to each colony, and I expect to rear all the drones from these 5 colonies that I need for my 100 queens; and, with my management no other colonies rear any. It takes us 2, some 5 or 6 hours to find the queens.

Now, take notice: The queens are taken away during the honey-flow, and just at the time when the colonies are as heavy as it is possible to have them; and my colonies have from 16 to 24 frames, if they can use them, for a brood-nest; and right here I wish to say that no better queens can be produced by any conditions or methods known to the bee-keepers of today.

Weeding Out Poor Stock.

About 10 or 11 days after taking away the queens is the time we take to weed out any inferior colonies; and I have very little of this to do nowadays. This is done by first going to these inferior colonies, and shaking the bees from all the combs, and destroying all the queen-cells. I then go to one of my best colonies, and take one frame that has queen-cells and give it to this poor colony; and the change is complete.

This day is the day on which to make

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some nuclei, as we will need some queens to take the place of those that are lost. It is also the day on which to make our increase.

Those 95 queens all hatch at about the same time. The practical honey-producer, where running several yards, must have a certain line of work that fits every colony in that one yard, the same day.

WHY THERE IS NO SWARMING.

Many will ask the question: "When these young queens hatch will we not have some swarming?" In taking away the last 1,000 queens, not one of the colonies has swarmed. At this time, they do not *hatch* until just *after* the honey-flow.

WHY WE REQUEEN.

First, for the improvement of our bees. Second, it gives us complete control of our bees, in every yard, from start to finish.

Hardly one colony in 100 is ever queenless. Again, it is remarkable how *even* our colonies are at all times. This is a *big* thing, as all our colonies are ready for the *same kind* of work at the *same time*.

These young queens build our colonies up for winter better than old queens can, and they lay later in the season, giving more young bees for winter.

S. D. CHAPMAN.

Does Mating Affect the Drone Progeny?

"Subscriber" writes that when one of his young queens of pure blood meets a black drone the worker progeny will vary in color, but the drones show no signs of black blood, and are just as bright as the drones of the queen's mother or of her purely mated sisters.

Dzierzon, along with other authorities, held that the drone was in no way affected by the mating of his mother, but there are some who believe differently. The case may be considered from the standpoint of reasoning, and also of observation. The eggs that produce drones not being fertilized, it is certain that they can not be affected in exactly the same way as eggs which are fertilized and produce workers. It sometimes happens that a queen which has never been fertilized nevertheless lays, her eggs producing only drones. In this case certainly fertilization can have no effect, for there has been no fertilization. Neither are the eggs of a normal queen fertilized, and they can not be affected by fertilization unless fertilization has wrought an actual change in the queen herself.

What does observation show? At the present day there is such a mixture of black and Italian blood that satisfactory observations are difficult. The localities are very few where blacks and Italians may both be found in their purity. Yet there are many places where a pure yellow queen may meet a drone of mixed blood, and "Subscriber" testifies that in such a case the drones show no effect of mismating. On the first introduction of Italians, there was abundant opportunity to observe the result when a yellow queen met a black drone, and it would be the natural thing that close watch should be kept. Is there testimony on record that there was plain evidence of such mismating in the color of the drones?

As before hinted, whatever change is produced in fertilization upon the drone, it must be through a change in the queen herself. Has any one observed a change in a yellow queen after meeting a black drone? Some one has said that he has observed a gradual darkening of the color of such a queen. Unless the change in color were quite conspicuous, it would be difficult for one to carry in one's memory the shade of a month or a year ago to compare with the present shade. Also a queen may become darker in appearance through losing her plumage, just as a worker bee does.

If mating with a dark drone changes the color of a queen, would not a white hen or any other white female show more plainly a change in color after repeated mating with a dark male?

On the whole, does it look reasonable to believe that the mating of the queen has very much effect on her male progeny?

Honey-Analyses—Bulletin No. 110

This office is in receipt of Bulletin No. 110 of the U. S. Department of Agriculture, entitled "Chemical Analysis of and Composition of American Honeys, by C. A. Browne, Chief of Sugar Laboratory, including A Microscopical Study of Honey Pollen, by W. J. Young." Few but scientists will understand the explanations given as to the methods of analysis, but every bee-keeper should be interested in the results of the analyses themselves.

Three main purposes in the undertaking of the work are given:

1st, to determine the general composition of our native honeys.

2d, to establish a general range for the variation in the composition of American honeys, which should be of assistance to the food chemist in the examination of commercial samples; this latter being made especially necessary by the recent passage of the food and drugs act.

3d, to investigate and improve, if possible, the official methods of honey-analysis.

No attempt will be here made to give a systematic review of this pamphlet numbering 93 pages, but some points of interest here and there will be mentioned. Of the 100 samples, 90 were labeled with the name of one definite flower, the other 10 being labeled mixed. But microscopic examination of the pollen grains showed that not a single sample was derived exclusively from the nectar of one kind of flower. Of 14 samples labeled clover, and no doubt supposed to be pure white clover by the bee-keepers who sent them, not a single specimen had less than 6 kinds of pollen obtained from other flowers! So it seems that when we talk about pure honey of a particular flower, it is not to be understood in too strict a sense.

Surprise is occasioned by finding alfalfa pollen in Illinois, Iowa, Michigan, Minnesota, Missouri, Ohio, and Wisconsin samples of clover honey. Do bees in these States work on alfalfa so much more than is generally supposed, or can it be possible that some other pollen was mistaken for alfalfa? The latter seems hardly a reasonable supposition when one looks at the illustrations of 48 different kinds of pollen grains, magnified 250 diameters, and varying as much in size and shape as the flowers themselves.

Formic acid "is wanting in the pollen and nectar of flowers and is supposed to be introduced into the honey by the bee just previous to capping the cell." That sounds like an echo of the theory emanating from the late Rev. W. F. Clarke, who asserted that just previous to capping the cell the worker dropped from its sting into the honey a tiny drop of poison. Is there any intelligent bee-keeper who holds such a view nowadays?

It is perhaps a common belief that the inversion of sucrose, or cane-sugar, ceases when the liquid is deposited in the cell. Not only does it not cease then, but we are told, "It has happened in the experience of the Bureau of Chemistry that samples of honey taken by inspectors from casks and bottled and sealed have decreased considerably in sucrose content within 4 months."

This bulletin can be secured only through the Supt. of Documents, Gov. Printing Office, Washington, D. C. Send 30 cents in coin or money-order (stamps not accepted), and if the price is less the difference will be refunded.

(Continued on page 150)

Report of the Detroit National Convention

A reporter for the coming National convention is one of the things to be looked after with care. Possibly, not more than 10 percent of the members can attend the convention—the rest must depend upon a printed report of what was said and done. They pay their money to support the Association, and we owe it to them to give them a complete and accurate report. The best reporter that we have ever employed is Mr. Geo. Angus, of Toronto, Ontario, Canada. He has had a lot of experience in reporting bee conventions, has caught on to the technical terms, and furnishes a report all correctly worded,

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and ready to be handed over to the printer without correction. I am pleased to be able to announce that we have secured his services for the coming convention at Detroit, and those who find it impossible to attend, may comfort themselves in knowing that they can sit at their own firesides, and read exactly what was said and done.

W. Z. HUTCHINSON, *Sec.*

John M. Davis and Apiaries

Among the queen-breeders of America there are few that are older than John M. Davis of Maury Co., Tenn. He has kindly furnished the following sketch which, with the illustrations on the first page and those herewith, gives a very good idea of Mr. Davis and his work in beedom:

EDITOR AMERICAN BEE JOURNAL:—

As far back as I can remember we had bees in bee-hives and a few old, round log-gums, and I became much interested in the industrious little insects early in my childhood. During the winter of 1868-69 I saw the Langstroth hive for the first time. This was in the yard of Mr. Calvin Brown, of Decatur, Ala. I doubted the possibility of handling bees as claimed by Mr. Brown, without being too severely stung, but when the weather became warm he demonstrated the fact so clearly that I paid him $6.50 for an empty hive, shipped it to my home at Athens, Ala., and had a swarm of bees hived in it the following summer. January 1, 1871, I came to this place and took charge of the telegraph office where I worked, with the exception of two years, until 1889.

In March, 1870, I had the Langstroth hive and bees shipped here and placed where my 3-band queen-yard is now located; this was the nucleus from which sprang my present business, and was the

JOHN M. DAVIS.

first Langstroth hive brought into this (Maury) county.

At that time I had but little office-work to do, and having much leisure I spent quite a large portion of my time with my little apiary, which was within hearing of my telegraph instrument. I increased by artificial swarming and purchase gradually, giving publications on bee-culture the preference over all other reading matter, commencing with the American Bee Journal when published by Samuel Wagner. I bought my first Italian queen from Dr. T. B. Hamlin, of Edgefield Junction, Tenn., and received her by express August 12, 1871, this being the first Italian queen introduced in this county. Owing to there being many black bees near me, I had but a small percent of my first queens purely mated. I adopted the Kohler method, and succeeded fairly well with it, but found it a very laborious and unsatisfactory plan. (For the benefit of some of the present-day amateurs, I will explain that this method is to place all the nuclei containing queens of the proper age to mate in a cool, dark place, a cellar being preferable; also a hive containing many drones. This should be done at night, and the next day each one, including the colony containing the drones, should be fed a few ounces of honey just after all drones from your strongest colony quit flying, and in about 10 minutes place them on their stands. The air will soon be full of bees and drones, the queens will come out also, if ready, and pure mating is assured, unless some impure drones are still on the wing. I kept my drones in the nuclei, which simplified the matter some.

I reared queens only for myself, a few friends, and in experimental work for several years. Dr. Hamlin used a nucleus with 6 or 8 frames about 5x6 inches, which I adopted but soon discarded, and used a frame fitting the 10-frame hive crosswise. This I found to be a convenient though rather expensive nucleus. I used 2 or 3 combs on each side of a thin division-board, thus making what is now termed *twin* nuclei. After the season was over these nuclei were doubled up for winter in hives made to hold 4 frames.

Seventeen years ago I adopted the full-sized 10-frame hive with a thin division-board dividing the brood-chamber. In these I use 2 to 4 combs with a follower, and keep them strong in bees. I am now putting in 100 full-size Langstroth hives with frames half the regular length and 4 nuclei to the hive, letting the bees work out at the 4 corners in opposite directions. I have experimented with these several years and have found them very satisfactory. This is as near to baby nuclei as I believe it is safe to approach.

The compact form makes a warm home for the young queens while awaiting their mating trip, and they begin egg-laying under favorable conditions.

After the queen season is over, remove the thin cross division-boards in each end of 2 hives, remove the bottom-board from one, and double enough nuclei into these to make a colony in each end, by placing the bottomless hive on the other; give each end a queen, and they are ready for the winter, provided the honey-supply is looked after. I wish to have as little as possible to throw away when I quit queen-rearing at the end of the season, which will be as soon as I can rely on getting an average of 40 pounds of honey to the colony. With my present nuclei I shall lose only the division-boards and small frames.

The destruction of the forest made the honey-yield so uncertain here that I was forced into commercial queen-rearing. I bred 3-band and golden queens 3¼ miles apart until last year, when, finding my business too exhaustive, I sold the golden department to my son, Benj. G. Davis, who has been an active

BEN G. DAVIS.

assistant in my yards since early childhood, except 2 years spent in California, where he took a peep into some extensive apiaries, and learned some of the Western methods.

My Carniolan yard is about 5 miles north, and is in charge of my son; the Caucasian yard is 7 miles south and is managed by myself: both of the latter are run for queens in a very limited way, the main object being to test their value as a commercial bee. Since having them, the seasons have been fairly favorable, and they have done well, except the Carniolans swarm too much. The true test of a race of bees occurs during a dearth of honey, so I am not prepared to give my opinion, and am willing not to have the requisite dearth.

We have one honey-apiary 4 miles east, and one 21 miles southwest, making 6 in all, containing at this time about 600 colonies, ranging from weak to strong. This includes recent purchases of 50 colonies now being transferred.

JOHN M. DAVIS.

Foundation Without Wiring

E. W. Alexander does not use wires in brood-frames. He says "that he does not hive swarms on foundation, he gives two or three sheets at a time to an established colony, putting them between finished combs, near the brood-nest. This is done before the main harvest is on, at a time when the bees are not getting much more honey than is required for their present needs. In this way there is no sagging. He says that they choose a day when the weather is not too hot, and the flow light, and put in a lot of frames of foundation, sometimes from 500 to 1000 in a day, putting them between frames of brood, removing some combs to make room for

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the new comers, and in a few hours these sheets of foundation will be drawn out into combs, all true and perfect, and with very little honey stored in them."—Bee-Keepers' Review.

Longevity Among Bees

C. P. Dadant says that if bees are unusually long-lived it's because they are lazy. I don't want to believe that if I can help it. Of course, there's no denying that bees live longer when idle than when working hard, and so it may be that some colonies have a longer lease of life just because each worker takes life easy. But that does not conflict with the possibility that there may be such a thing as a colony whose workers live longer than the average, while at the same time working just as hard as the average. And in consideration of the fact that the average life of a bee as a fielder is 26 days or less, the addition of a single day to its gathering career is an important item; for I take it for granted that the added day would be on the fielding end.

Now, what could I afford to pay for a queen which would result in that added day for a whole apiary?

Suppose one has an average crop of 10,000 lbs. annually, at 15 cts a pound, bringing $1500. One twenty-sixth of that is $57.00. A queen that would bring that *annual* increase would be cheap at $50.00—yes, at $100.—Stray Straw in Gleanings in Bee Culture.

Conducted by EMMA M. WILSON, Marengo, Ill.

Getting Increase and Honey.

Last July I purchased a 3-frame nucleus of Italian bees, and an Italian tested queen to go with them. A neighbor who is an experienced bee-man taught me how to introduce the queen, and to build up the colony. I fed sugar syrup until he assured me they had plenty. They have 3 full frames at this date of writing (April 8), and are bringing in pollen in a hustling manner. Now circumstances as well as inclination have started me in bees. I hope to make my living and a little over. I have purchased 6 colonies to be delivered in late April or early May, and have put together and painted six 2-story hive-stands and 12 complete hives with brood-frames and sections fixed with foundation. I have purchased "A B C and X Y Z of Bee Culture," have subscribed to 3 bee-papers, and have read them over and over all winter, and have now ordered "Forty Years Among the Bees." Now, I can not find in any of them directions for putting up an inexpensive honey-house, and lumber being so high the strain is beginning to tell on my pocket.

Could I put up a frame good and strong and cover it with Paroid roofing, and paint it white? Having the foundation protected by wire-screen to keep out rats, would such a house be safe in which to store sections and brood-combs?

I have 2 rims with wire sides in which I have planted vines acceptable to bees, and I hope to build up carefully until I have 100 colonies. How can I increase the quickest and safest, at the same time getting honey? By using some colonies simply for increase?

HELEN M. FERRIE.

Hackettstown, N. J.

So far as concerns a building in which to store sections and brood-combs, you can probably have nothing better than one with walls and roof covered with Paroid roofing. Of course, there must be sheathing on which the Paroid is fastened, but this can be of very cheap material. Whether to paint it white is a question. It would look better, but is probably not needed to add durability, and if you ever store honey in it the darker the color of the outside the better. Mr. G. M. Doolittle, if I am not mistaken, advises black, so that the heat of the sun may have its effect in the better ripening of the honey.

How to increase the quickest and safest, at the same time getting honey, is as the Scotch say, a kittle question. It's a little like making investments. The callow youth plunges into any sort of a get-rich-quick scheme promising to double his money in a year, and loses all he has; the experienced financier is well satisfied with an annual return of 5 or 6 percent, counting safety the element of greatest importance. So it is with increasing bees. One may make a very big increase, and then find all dead the following spring. Remember, you are largely at the mercy of the season. One year you may safely make a large increase, there being a fine flow of honey from early till late, while the next season may be so poor that you will do well to hold your own without making any increase. Of course, you can help out by feeding, but nothing equals a natural flow.

As you say you have ordered "Forty Years among the Bees," I am going to ask that an answer in this department to your question be delayed until you have read in that book what is said about increase, beginning at page 252. You will there find the subject treated in a fuller manner, probably, than in any other work published. You will find your question answered more fully than it could be answered in this department, and yet it is not at all improbable that there will still be questions left unanswered, and please don't hesitate to send them on. It will be a pleasure to answer them.

Almond Paste.

Formula for almond paste: Seven ounces of bitter almonds, 1¾ ounces of orris root, 1¾ ounces of powdered castile soap, 3½ ounces of glycerite of starch, 2 ounces of clarified honey, one dram of oil of lavender flowers, 2 drams of oil of bergamot, 8 drops of oil of bitter almonds. Blanch the almonds, heat them with a small quantity of water to a smooth paste, add the other ingredients and mix intimately.—Chicago Record-Herald.

Honey Lotion for Chapped Skin.

LENA.—Here is a recipe which was popular in England many years ago: Melt 4 ounces of honey and 2 ounces of yellow wax which are put into 6 ounces of rose-water in a double boiler until they become well blended; then, while still hot, add one ounce of myrrh. Before going to bed apply this thickly to the skin. This is helpful when the skin is chapped.—Dr. Emma E. Walker, in Ladies Home Journal.

An Ex-Stenographer's Success with Bees, Poultry, and Fruit.

Under the above heading appears in the Circle an article written by our bright friend, Miss Frances E. Wheeler. The article is especially to be commended for its moderate tone. While encouraging to many a sister who may be left to her own resources, it does not mislead by setting forth bee-keeping as a gold-mine. The following portion of the article is especially interesting to the sisters of this department:

"I left New York and stenography because my hands gave out, and retired to recuperate in our little home at the head of Lake Champlain, where circumstances eventually developed that left mother and myself alone. I decided that it was worth while to try to make a living there, and keep the home rather than give it up and return with her to the city. We had a very nice apiary consisting of about 50 colonies of bees, a good honey-house, and a complete outfit for handling and increasing the output when desirable; also bee-literature galore, which during the winter I studied faithfully.

"As time went on, one season following another, I began to understand the business; the work became increasingly interesting, and the outlook encouraging. Of course, this point was not reached without many mistakes being made, some losses suffered, much hard work and many disappointments. The chief difficulty met in each department of our business has been, and is, efficient and reliable help. With the bees, it soon became apparent that, to have assistance when needed, some other industry must be combined with it to justify the steady employment of a man and insure his

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pay. As the result of much thought and experiment with various branches of poultry, the raising of Pekin ducks for market and breeding stock has proved best adapted to our place and resources, and has gradually developed into a steady and lucrative industry.

The bees have increased to 80 colonies, and we usually obtain between 2 and 5 tons of honey per season. Likewise, the first flock of 5 ducks and a drake have grown to 140 breeders, with capacity of the plant increased to accommodate 2,000 young, and a product of 100 pounds of feathers and $200 worth of eggs per season. The reason why the duck industry has grown most is because 80 colonies of bees are as many as our locality affords pasturage for (on the principle, you know, of 'more cows, less milk'), and the demand for Clovernook ducks has kept well ahead of the supply.

Bees Buzz with Their "Buzzums."

"If I have ever nature-faked," said the Rev. William J. Long, the gifted nature writer of Stamford, "I have done so unconsciously. My knowledge, not my veracity, has been at fault.

"You know," resumed Mr. Long, smiling, "anyone may nature-fake through ignorance. Thus:

"One day I was addressing some Stamford schoolboys on the subject of bees, and turning to a bright looking little chap, I said:

"'With what part of its body does a bee buzz, Jacob?'

"Jacob answered confidently but ignorantly, launching a tremendous nature fake:

"'Its buzzum, sir,' he said."—Home Herald.

Yakima Valley Good for Bees.

I live in the Yakima Valley, and would say we certainly are blest with plenty. You might call it a land flowing with milk and honey, fruits of all kinds, etc. In our Valley alone I am sure there was marketed 60 tons of honey. It was published in the local papers that our Inspector Jesse W. Thornton's crop was 15 tons from 500 colonies of bees last year. We got only half a crop. Our honey was of excellent quality and was all sold to good advantage before Christmas. Our market is now bare of honey. The highest the most of our honey brings is 12½ to 15 cents for No. 1, while some fancy is higher.

MRS. JESSE W. THORNTON.

No. Yakima, Wash., April 21.

The Birds and Bees.

I think the bees, the blessed bees,
Are better—wiser far than we.
The very wild birds in the trees
Are wiser, far, it seems to me.
For love and light and sun and air
Are theirs and not a bit of care.

What bird makes claim to all God's trees?
What bee makes claim to all God's flowers?
Behold their perfect harmonies,
Their common board, the common hours!
Say, why should man be less than these—
The happy birds, the hoarding bees?

—JOAQUIN MILLER.

Conducted by J. L. BYER, Mount Joy, Ont.

Wintering Bees Without Loss.

In a letter lately received from Allen Latham, the writer is jocularly rebuked for asking how his bees had wintered—"he who says that one can be as sure of wintering his bees as of wintering his cattle." He further remarks that in his locality the bees have flights every month, although once they were shut in for possibly 5 weeks. No doubt he has thoroughly solved the wintering problem for his latitude, but at the same time believes Mr. Latham will concede that there are more obstacles in the way of successful wintering of bees in the Northern States and Canada than is the case in Connecticut. Our bees never had even a partial flight from early in November until March 12, and from the latter date were shut in till April 6. Yet at this date of writing 2 of the yards appear to be in good condition, the Cashel yard of 86 colonies just visited, being all alive but one. The Altona yard of 40 colonies has a different story to tell, and it is in connection with the history of this apiary that I wish to submit some facts, and in a sense solicit Mr. Latham's advice as to how to be sure of wintering *every* colony *every* year without loss.

This apiary was started 7 years ago, and up to this winter the losses have not averaged 10 per cent from all causes, such as queenlessness, spring dwindling, etc. Last year, a season of excessive losses, every colony in the yard wintered well, and they were so stong that radical measures had to be taken to prevent swarming in fruit-bloom. Not a pound of syrup had been fed the previous fall, the stores for wintering consisting mostly of buckwheat honey. In the other 2 yards wintering on similar stores, *plus* a little honey-dew, the loss was quite heavy. Last fall the buckwheat yielded no honey, and following a total failure of the clover crop, broodnests were light. Especially was this the case at home and at Cashel, and as a result, sugar syrup had to be supplied liberally.

Out of 70 colonies at Altona 30 were heavy with honey, and for ought I could see, the stores of these 30 colonies were just the same as in other years, no honey-dew, to the best of my knowledge, being present. Among the 40 that were fed, were 8 4-frame nuclei, yet the whole 40 have wintered in good condition. As to the 30 colonies heavy in honey and fed no syrup, they are in a condition never before met by me in all my experience with bees. For some reason the honey granulated in the combs, and the bees actually died with dysentery and starvation, while the bulk of their stores was solid in the combs. Whole combs of honey have the cappings chewed off, the bees being in much the condition of shipwrecked sailors famishing while surrounded by water. On examination this granulated honey appears to have an excess of pollen and that is the only reason I can possibly think of as being responsible for the trouble. Out of the 30 colonies, 14 are dead and at least half a dozen more are sick unto death. The point I wish to make is this: In view of the uniformly good wintering of that yard in past years, I wonder if I am premising correctly when I venture to guess that if Mr. Latham had been in my position that possibly he would have done as I did—leave those 30 colonies with their natural stores.

Finding Queens After Harvest.

C. W. Dayton says in the February Review that it is easier to find queens after the harvest than before. That may be right for California, but Mr. Dayton, as far as Ontario is concerned, I beg to differ from you. All things considered, methinks that to hunt the queens out of 20 colonies before the harvest would not be as big a proposition as to hunt out 5 after the honey-flow. All of which goes to show what "locality" has to answer for.

Feeding Sugar Syrup for Winter Stores.

I dislike advocating wholesale feeding of sugar syrup for winter stores, and in some seasons no sugar is necessary for successful wintering, but in excessively poor seasons like the last, when so much pollen is gathered, and this condition is followed by a severe winter, the sugar is almost absolutely necessary to bring the bees through in good condition. Last July, 20 Carniolan queens were bought and introduced in 2-frame nuclei. Owing to almost total dearth of nectar all the season, and the fact of the writer's being away quite a great deal, these nuclei had no chance of building up strong. Most of them went into winter quarters on 5 Jumbo frames, although 4 frames would have accommodated the bees easily. These frames were fed nearly solid with sugar syrup, and today those 20 colonies are among the best that I have. Not a bee was ever noticed leaving these hives from early in November till March 12, and while the well-known hardiness of the Carniolans may help to explain results, yet I believe in a large measure the nature and *position* of the stores was

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responsible for the excellent wintering of these nuclei.

LATER.—Today (April 15) the weather moderated enough to allow a hasty examination of the home apiary, and out of 106 colonies I find 6 dead and that many more with only a few bees left. The trouble is just the same as at the Altona yard—granulated honey, and in every instance the affected colonies were last fall heavy in natural stores and fed no sugar syrup. As I write, I have been called to the 'phone by a friend who tells me he has just come from visiting one of our well-known bee-keepers—a bee-keeper who has been remarkably successful in the past in wintering his bees. Yet my friend tells me that over half of his bees wintered out-doors are dead, and of the balance not more than half a dozen colonies are in good condition.

On my asking for cause of the disaster, I was told that granulated honey was responsible, even the combs where the bees had clustered were granulated solid, and the bees were dead with great quantities of this solid article in the hives.

While we have had a severe winter, yet I hardly think that factor has any bearing on the case, as previous winters have been just as cold and no granulating of the honey took place. Personally, I would be glad if some one would advance a reasonable solution as to the cause of the honey graulating in such a wholesale manner. In this connection it is worth noticing that under conditions which caused the honey to granulate, the 2 to 1 sugar syrup, with no acid or honey added, wintered the bees splendidly. Seriously, I wonder if any one ever had much trouble with sugar granulating, if made either thick or thin, provided it was not fed too late in the fall.

Apiary of Mr. D. Meuser.

The pictures herewith are two different parts of the same apiary, so that the colonies shown on the summer stands are not the ones that are packed in the winter hive-cases.

The apiary consists of 55 colonies, and are all wintered on the summer stands. The hive-cases in the first row are made to hold 4 colonies placed back to back, allowing 4 inches of space for packing all around, and there is room enough for 12 inches on top, but I use a screen-bottomed box 4 inches deep, and the same size as the top of the hive, filled with dry sawdust. I first remove the propolized cloth and put on a clean one, then set the box with sawdust directly on top, and the flat hive-cover is put on top of that, but not tight-fitting. There are still 7 or 8 inches of empty space between that and the roof of the hive-case. The hive-cases in the second row were made about 20 years ago, of rough hemlock lumber, and are still as good as new except the roof. The packing is left around the hives in the old cases all the year around, and some colonies have occupied the same hives for at least 15 years, to my knowledge. I use old carpets and chaff cushions for top packing on these hives, but the chaff seems to get damp and moldy, whereas the sawdust on the others keeps dry.

Bees had their first flight March 12, with still 2 feet of snow on the ground at the time, but there was a hard crust on top so that few bees got chilled. All colonies were living at that time in spite of the fact that they had been buried in 2 and 3 feet of snow for about 4 weeks, with zero weather about half that time and twice 24 degrees below. Notice the storm-door and alighting-board combination, made of 2 pieces hinged together in the center with a small butt hinge. When open it acts as an alighting-board, and when closed the outer piece acts as a storm-door. It certainly served its purpose well the past winter in keeping the entrances free from snow and ice.

The weather has been very cold and backward here so far, but bees are flying today, and all colonies are still alive. D. MEUSER.

Elmwood, Ont., April 14.

WINTER AND SUMMER VIEWS OF THE APIARY OF D. MEUSER.

Controversialists Should Keep Cool.

The editor of the Farmers Advocate, commenting on some rather pungent letters on a controversed subject, sent by subscribers for publication in his journal, remarks, "It is a good plan, when writing letters for publication, especially on controversial subjects, to draft them out, lay them aside for a week to cool off, and then re-write." Pretty good advice even for writers for bee-papers, as well as for contributors to the Farmer's Advocate—advice, by the way, which is not likely very often followed.

However, as bee-keeping is notorious for its many seeming contradictions, contributions on the subject are naturally of a controversial nature, yet with comparatively few exceptions contributors to bee-papers seem to be actuated by a spirit of willingness to "agree to disagree," no matter how diametrically their views may be opposed to those of opponents. To the writer's mind this is as it should be, as I fail to see any good purpose accomplished by the sarcastic, vitriolic effusions that appear once in a great while in some of the papers.

In the April number some of the views of Mr. Chrysler on the matter of co-operation were given. In the March 20 Farmer's Advocate the discussion is continued by Mr. Brown, another past-president of the Ontario Bee-Keepers' Association. As will be noticed, Mr. Brown takes somewhat different views than Mr. Chrysler:

CO-OPERATION WITHOUT ORGANIZATION.

EDITOR "THE FARMER'S ADVOCATE":—

In my humble opinion, co-operation in marketing honey is a matter that requires considerable forethought, for many reasons. One reason is that we do not have a regular crop of honey every year to harvest or dispose of. Again, organization has to take place among the honey-producers before co-operation can be established. Bee-Keepers are only human beings, and, as a rule, would not care about entering into a thing they did not see their way clear to get some benefit from.

Of course, the bee-keeper who is sure of having a crop of honey to dispose of every year, over and above what his home market demands, would say co-

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operation for him is all right, but, as to the bee-keeper who can dispose of his honey in the neighborhood of where it was produced to good advantage, no co-operation is necessary for him. For the bee-keeper who has to rely on the wholesale houses, ship long distances, or send to a foreign country to dispose of the product, co-operation should be beneficial. But, sir, when it comes to the question of ways and means, there is where the shoe pinches. Would the profits to be derived from co-operation be sufficient to warrant those of the class which I have just mentioned in going to the expense of entering into a body corporate in Ontario? I would say, I think not. Of course, some of the very large honey-producers in Southwestern Ontario, who are reasonably sure of a surplus crop to dispose of every year, may think different, and may be right in thinking so. But have not they already opened up a market—and a good market, too—for their supply of honey across the sea? Mr. McEvoy says they have.

And now, sir, as I may not be called upon to touch this subject again, I would advise all honey-producers, without exception, to look closer after the home market, by trying to get their honey, as much as possible, from the apiary direct to the table of the consumer, without the intervention of the middleman, and always to aim at producing the very best article possible, and you will be surprised how the home market demand will increase, to the benefit of both producer and consumer; and, in a word, co-operation between producer and consumer could and would exist, without the kind offices of a well-paid official to live on the fat of the land.

Prescott Co., Ont. W. J. Brown.

The following is also taken from the Farmer's Advocate. I am acquainted with the circumstances mentioned, and can vouch for accuracy of figures given:

Farmer Bee-Keeper and Alsike.

When we consider what a palatable and wholesome food is honey, and how little expense and labor is involved in securing and caring for a few colonies of bees, it seems passing strange that so few farmers take up bee-keeping. The bees work for nothing and board themselves; and, besides storing a large quantity of surplus honey for the family and for sale, do a valuable work for the farmer by pollenizing his clover and fruit bloom. In one neighborhood, where bees are kept, farmers sold up to $75 worth of alsike clover seed per acre last year, largely owing to the work of the bees, and one bee-keeper in the same section sold $3,000 worth of honey.

Bottom Starters in Sections—Foundation.

A perusal of what the Editor and Mr. E. F. Atwater have to say touching bottom-starters in sections (page 101), moves me to say that for some people bottom-starters are a decided advantage. But for those who cut the foundation fairly accurate and hang it the right side up, bottom-starters are a useless bother, and a worrying waste of time. I tried them on a pretty large scale for several years, marking the sections so there could be no mistakes made. At the same time, in the same yard, and in every other respect under the same conditions, I had about the same number built without bottom-starters. And so far as I could see there was no difference in the finish of the sections. The foundation should be cut pretty accurate, just so that it will swing clear of the section and leave about 3-16 of an inch space below for sections 4¼ inches deep. A taller section needs more space under the foundation.

Right here I want to mention the fact that all the foundation I ever saw was stronger one way than the other. That is, it would sag less if hung one way than the other. This is a point that no one can afford to ignore. Often when the weather is cool the outside of the outside sections is sadly neglected. This will cause the foundation to curl outward, besides being unfinished when the others are completed. Dividers properly made and properly used correct all this, if the other conditions are right. If slats are used in the construction of dividers the spaces between the slats should be 1-5 of an inch. The dividers provide room for lots of bees to keep up the necessary heat for comb-building and capping, without which it is impossible *for the work to keep pace with work where the heat is right.*

Alymer (West), Ont. S. T. Pettit.

Conducted by LOUIS H. SCHOLL, New Braunfels, Tex.

"Well Enough for a Man."

Men do not know how to comment on woman's doings in bee-keeping, I admit, so Miss Wilson is quite right (page 106) in calling my comment, "well enough—for a man." But how could I have been expected to do better under the circumstances? The *circumstances* are these:

There's "a woman" here at our house who helped me produce and market over 10 tons of honey last season. She it was that put nearly all the foundation in the frames—some 6000 in number—and the work was done so deftly and quickly that it did not take long to finish the job. And she didn't have anybody to look after all the other things either—*did all of the things herself.*

We use spoons with a "crooked neck" and a "triplicate frame rack" that will be described some time, that enables fast work being done. All this had something to do with my comment. I don't mean to cast any reflections on anybody, either.

Those Cyprian Bees.

Several times I have been asked to describe the different races of bees, especially since my experience with 8 different races has extended over several years and in different localities, but time has not allowed it except in a very brief way. Upon this, one correspondent comments as follows, and describes the "Cyps" very much like I have found them:

Dear Mr. Scholl:—At last, on page 42, we have the long-promised discussion of the different races of bees! But how brief. Anyway, a few crumbs "is better than no bread." I'm still sticking to the "Zips," or more properly, they still "stick it" to me. Last spring I was going through a hive of "Zips," watering their candied combs of honey, and "all went merry as a marriage bell," and I was just thinking "what fools these mortals be"—the little Cyprians are business-like, and tend to their own affairs, allowing others the same right, and "don't sting at all."

About that time, just as I was taking hold of a frame, one of the innocent little "misses" interposed herself between finger and frame. Her sting wasn't very long—not over a yard—and her poison-sac wasn't very hot—not hotter than cayenne pepper seasoned with molten iron—and so out of consideration for the bee (sting and poison-sack) I gently and hastily (and I've since thought not gently enough, and too hastily) let the frame drop. In doing so, another innocent little miss was crushed under the end, and 20 dozen or 200 million dozen others were jolted just ever so little. I had but one thickness of hickory shirt on my back and arms. There was a hole in the top of my hat large enough to insert the end of my finger. The hybrids had never found it.

The "Zips" are the wisest and most business-like that ever I saw, felt, or dreamed of, and meddlesome withal. They have the most perfect system of wireless telegraphy, and rapid fire communication. One Cyprian found that hole; instanter, it was reported to half the bees in that hive. It seemed they were disturbed, and I was the cause of it. I thought nothing but that the disturbance should cease, and as soon as convenient. So without taking time to replace the frame, super, and cover-board, I hastily retired to a patch of tall weeds. The Cyprians didn't seem, with all their wisdom, to understand that I was anxious to cease disturbing them. Not till I had stood on my head in the grass—that seemed to quiet all that were inside my hat.

I ran my hand through my hair, and the bee-stings—it reminded me of a

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Tennessee stump-field. As to the flying bees, there was a tank (water-pool) near by, and I recollected that it had been several days since I had taken a bath, and I found out that was just what the bees were urging me to do, for they went home as soon as they had me satisfactorily under the water. The "Zips" are great, and I love them (mostly by telepathy).

The above colony of Cyprians referred to seem perfectly gentle as long as none are injured, and the hive is not jolted. I have several times gone through the hive, handling every frame, and not gotten a sting, and transferred them once and extracted the supers twice without a sting.

I have another colony from an imported queen of "gentle strain," and I've seen them fly out to investigate when I have simply laid my hand on the hive. And sometimes when I do not even touch it. But if they fulfill their promise of honey gathering, I think I'll keep Cyprians. Some, anyway. It is largely honey fun and a good laugh.

Santa Anna, Tex. J. E. McCLELLAN.

Not More, but Better Bee-Keepers.

I was pleased with the comments in an editorial footnote to Mr. Edward Corwin's letter, headed, "Making More Bee-Keepers," in the March issue. It is not more bee-keepers we want, but better ones. That's the point exactly. I should like to see the time come when every man (and woman, too,) that keeps as many as a half dozen colonies of bees, is a constant reader of the American Bee Journal, or some other bee-paper, and keeps his bees in good, movable-frame hives. It's not the practical bee-keeper that reads the bee-papers and looks after the needs and wants of his bees that ruins our markets by selling dark "honey-dew" for "good, pure bees' honey," or that sells "bulk" comb honey that has had several generations of brood reared in the combs, for first-class "chunk" honey. It's the man that won't read bee-papers that does this. It is not always the farmer bee-keeper, either. L. B. SMITH.

Rescue, Tex.

Queen Behavior—20 Days from Eggs to Queens.

I had 2 black colonies of bees that I wished to requeen with Italian queens, or kill in the effort, and had the following experience while doing it:

On March 19, I dequeened one black colony to make it rear queen-cells for both colonies, keeping the queen laying in the other colony. On March 22, I "budded" the cells, using larvæ 2 days old, making the queens 5 days on the road, and were due to hatch on April 2. I dequeened the other colony 3 days before so as to give me one day to play on. I put the cell in the dequeened hive on the 15th days of their age, and expected the queens to hatch on the 16th day. Three days after they were due to hatch I decided to see what kind of Italian queens I had produced, and upon opening the hives I discovered that I had no queens at all. This was in the morning of the 19th day from the egg. In the afternoon of the same day I went to one of the hives, opened it up, and discovered that one of the cells had hatched. I quickly closed the hive and went to the other hive containing the cells, and found both cells unhatched. I closed the hive for more waiting, feeling sure of my hatched queen.

The next afternoon at 2 o'clock I was anxious for another examination. Going to the hive containing my hatched Italian queen to look her up, I went through the hive, but not finding her, I concluded that I had missed her, or that she had been decapitated, as black queen-cells were present. I proceeded to go through again, when I discovered a little crippled-winged black queen present, and the Italian queen killed, and nothing doing! I leisurely sauntered over to the other hive containing 2 Italian cells, and pulling out one frame I saw a young Italian virgin turn down on the bottom of the frame in the hive just in front of me. I quickly jostled for the cells to see if both had hatched, and to my delight discovered that only one had hatched, and that the queen in the other was just about ¾ cut out.

Quickly taking the frame with the hatching queen, bees and all, I started for the other colony, and before I could reach the hive the queen was half out of the cell and hung at the shoulders, the worker-bees pulling at her with all their might, making her squeal vehemently. I quickly put in the frame and closed the hive. Two days later I visited the hives and found 2 beautiful virgin queens playing over the combs. I was successful with both black colonies whose queens are laying at this writing.

There is nothing wonderful about this at all, except that it was *20 days* from eggs to hatched queens. Our orthodox "bee-dads" tell us "kids" that it is 16 days from the egg to the queen, but here is one instance positively and absolutely, where it was 20 days. Do not accuse me of juggling with dates or miscounting—nothing of the sort occurred. Then do not suppose that it is my first effort at queen-rearing, for I have been rearing them for years.

In order to make a puzzle for Dr. Miller, G. M. Doolittle, etc., I will allow them to inform the bee-world why it was 20 days from the egg to the hatched queens. I have the reason in the demonstration and will give it later if necessary, in case the question is not answered, and our "Grand(bee)papas" fail to make a good guess.

P. P. ROBINSON.

Bartlett, Tex., April 13.

Large vs. Small Hives

BY ADRIAN GETAZ.

Some 15 years ago quite a discussion took place in the bee-papers as to which was the best size of hives to use. The majority of writers strongly advocated the 8-frame hive, and the rest the 10-frame. The Dadants were almost alone in advocating a brood-chamber larger than 10 Langstroth frames. Remember that at that time nobody thought of using 2 hives or 2 bodies, one upon the other, for a brood-chamber. Commenting upon the situation, Mr. Chas. Dadant wrote thus:

"We are now alone in advocating a brood-chamber larger than 10 Langstroth frames, but we are in the right, and the time will come when our position will be vindicated."

Well, Messrs. Chas. and C. P. Dadant are now more than vindicated. With one or two exceptions, every bee-keeper of note now advocates the use of 2 hive-bodies for the brood-chamber, and some want even 3. Two bodies of 8 frames each make a brood-chamber larger than the one used by Messrs. Dadant.

So the question now has completely changed. It is no longer a large or a small brood-chamber, but it is, Shall we use a large hive or pile up 2 or 3 small ones together?

THE TWO SYSTEMS COMPARED.

During the last 2 or 3 years, several of our largest bee-keepers have been induced to give in detail their methods of bee-keeping, or rather their systems of management. I began writing this article with the intention of giving a short description of each one, but soon found out that it would be an endless repetition, and that one description would cover all.

1. Beginning with the early spring we find that nearly all have to feed their bees more or less. It must be understood that only one hive-body is used to winter the bees. It does not take much honey to feed the bees through the winter, but it takes a whole lot of it to feed the brood in the early spring. It seems by what they say that an 8-frame hive can not hold enough for both purposes, and that a 10-frame has not room enough for both the honey and the space needed by the queen if she is to do her best. The upshot is that the hive should contain only a moderate amount of honey, so as to give the queen sufficient room, and the apiarist must feed enough to make up what is necessary. Mr. Alexander goes even farther than that. He extracts in the spring nearly all the honey that may be in the hive, so as to give the queen plenty of room, and feeds the colony every 2 or 3 days what is

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needed to keep the brood-rearing at its best. That's a good deal of work.

2. By and by the brood-nest is full, or nearly so. The second story is added, if possible full of already built combs to save to the bees the work and honey necessary to build them.

3. The honey-flow comes. With it the swarming. At this time some remove the added story, putting all the brood into the lower one. The majority, however, leave it until the end of the honey-flow.

4. Most of the bee-keepers practice "shook"-swarming. That is, merely dividing. All the brood is removed to a new stand, and the colony has to rebuild a new brood-nest. Most of the bees are shaken from the combs, so as to leave as many as possible on the old stand. The supers are added.

5. At the end of the flow the second stories are taken off, and the combs must be cared for and put where the moths, mice and mildew will not injure them. The supers are also taken off.

6. The last operation is to feed, if necessary, and put the bees into winter quarters.

THE DADANT SYSTEM.

Now, let us compare the above with the Dadant management, item by item:

1. In the early spring no feeding or fussing of any kind is necessary. The hives are large enough to afford room for both the brood and the honey necessary to feed it.

2. For the same reason no second story is needed. That means a saving of its cost, and the time of taking to the apiary and putting on, including the necessary combs.

3. In working for extracted honey a colony lodged in a Dadant hive will seldom swarm, only 2 to 5 out of 100 every year, so that it is not worth while to watch for the swarms, or shake the whole apiary to prevent them.

4. In working for comb honey the swarming is restricted by having a large brood-nest, but not entirely prevented. The colonies that do not prepare for swarming may be let alone. Those that do can be shaken or divided, or the queens can be caged or removed. The caged queens can be released when the colonies have been without unsealed brood during a week, or even only 4 days. Or another queen may be given or the colonies allowed to requeen from their own cells.

So far as the work is concerned there is but little difference between the two processes. But there is quite a little difference in the surplus obtained. Shaking the colony and taking away its brood and combs means that it has to rebuild a brood-nest. That rebuilding costs the bees, or rather the apiarist, about 30 pounds of honey. At least, that is what the difference in the surplus amounts to in my locality. In a good locality where 100 or 200 pounds per colony can be obtained, 30 pounds more or less does not matter (?), but in mine, these 30 pounds or so often make the whole difference between some surplus or none at all.

5. No second stories are to be removed and taken care of. This taking care of is more than may be thought of at first. It is easy enough to put the empty stories on a wagon, haul them all and pile them up. But the extra combs may give trouble. Whatever honey is in them must be extracted, and they have to be kept safely against moths, mice and mold.

6. Feed is necessary. This will be less often with permanent large brood-chambers, than in the other systems of management, yet it may have to be done occasionally.

Knoxville, Tenn.

Requeening Colonies Each Year

BY C. C. MILLER.

MR. EDITOR:—I have always practised allowing each colony to attend to its own superseding, unless where I wanted to replace a queen with a better one, and it has always seemed to me that there should be a very considerable gain in prospect to warrant one in taking the matter into his own hands and being to the trouble of rearing or buying new queens to be introduced every alternate year. Then came S. D. Chapman in the Review, saying he renewed his queens not every 2 years but *every* year, and all the part he took in the case was simply to remove the old queens. Giving particulars, he said he removed the queens one week before the close of the raspberry flow.

Now I am practically certain that there would be no surer way for me to force every one of my colonies to swarm with virgin queens than to remove the old queens a week before the close of the raspberry flow. It would be an exceedingly foolish thing for me to do. Yet Mr. Chapman is no "spring chicken" in the bee-business, and as I had great respect for him, and confidence in his word that in his case there was little or no swarming, I wrote for light upon that one point. Here is his answer:

DR. C. C. MILLER:—In reply to your question in regard to the time of the raspberry bloom, it is usually from the 5th to the 10th of June, and closes near the middle of July: Of course, the season may be earlier or later than this. Yes, I take the queens away about one week before the close of raspberry; just for the reason that it is more convenient for me to have them hatch at this time. The queens do not hatch till about one week after the harvest, and at a time when no honey is coming in.

Just as soon as the raspberry closes, I start the extractor, as I need 1200 of these combs after they are extracted to make 150 colonies increase. I save keeping on hand 1200 combs. I put away 500 colonies in the fall and start at the beginning of the harvest with 350 good, strong colonies by doubling the lighter colonies at the beginning of the harvest.

You say if you should unqueen one week before the close of the harvest your bees would all swarm. I have no doubt of this. Let us talk this matter over.

As I understand, you run almost entirely for comb honey, while I run exclusively for extracted honey. Now it depends entirely upon the management we give our bees previous to and during the harvest. You see, as soon as the colony in the spring becomes strong I put 2 frames of brood in an upper story and place it above, and when they are well started in this I raise it up, placing another story under it. There is the point. After a colony becomes strong I give so much room that it does not look to them as if they could ever catch up. This keeps every colony working vigorously. Of course, towards the latter part of the harvest I let them get closer to me. With this management I can take away 100 queens any time, letting the young queens hatch during the honey-flow, and I would not expect to exceed one colony to swarm. With us, where the queens hatch one week after the harvest, and not any honey coming in, they will not swarm.

If I have not given the desired information, come again. I would be glad to have you. S. D. CHAPMAN.

Mancelona, Mich., April 7.

That clears the matter nicely. My good friend is in error in understanding that I think removing queens a week before the close of the harvest would make all my colonies swarm. If I wrote that, I blundered in expressing myself. What I meant to say was that it would make all my colonies swarm to remove the queens one week before the close of *the raspberry flow*. As I understand it, the close of raspberry flow is the close of the season with him. With me the honey-flow continues many days after the close of that flow, which ends here much earlier than the middle of July.

If I should remove queens a week before the close of the season, I don't know but the plan would work here, even when working for comb honey. The great trouble would be for me to tell in advance when the close of the flow might be expected. Sometimes there will be a let-up the middle of July, and it will look as if the end was about to come, when the flow starts afresh and continues another month.

There is no question that for those who wish to take superseding into their own hands, Mr. Chapman has given a very excellent plan, and in any case there are some distinct advantages in it for any one who can tell with reasonable certainty a week beforehand when the season will close. I am glad publicly to express my thanks to him.

Marengo, Ill.

Wax-Moth, Alsike Clover, Bee-Diseases, Etc.

BY G. M. DOOLITTLE.

A correspondent says he has been persuaded to take the American Bee Journal, and through reading it he has a bee-fever on. He wishes to start bee-keeping in May, but is not fully able to decide just what he will do, adding, "If you will answer the enclosed questions through the columns of the American Bee Journal it will help me much in deciding."

His first question is this: "Is there danger of losing colonies by moths or other insects?"

The larva of the wax-moth is about the only real enemy the bee has in the insect line in our Northern States. These

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feed upon the combs, generally starting in those which have more or less pollen in them. As these larvæ grow they change the combs by their consumption and development from the nice, symmetrical cells for brood and honey, into a mass of webs and cocoons. However, I have never known of a strong colony destroyed from this source, especially bees of the Italian race. In fact, where pure Italian bees are kept exclusively, these pests pretty much disappear. Still, combs not protected by bees are always subject to their ravages, and should be looked after during warm weather.

If signs of worms appear the combs should be placed in a tight barrel, box or room, and fumigated with burning sulphur, having all fixed so there is no danger from fire.

For brood-combs which are stored away for safe-keeping during warm weather, I generally use one-fourth pound of sulphur for every 50 cubic feet in box or room in which the combs are stored. After once treated in this way, I have never had any further trouble so long as the box or room is kept closed, providing the same is tight enough to prevent the female or mother from entering and depositing more eggs on the combs.

Sowing Alsike Clover for Bees.

The next question asked is, "Will it pay me to sow alsike clover for the bees? Does this clover ever fail in giving nectar when in blossom?"

I have my doubts about it paying very largely to sow or raise any plants or trees for their honey alone; but when we consider that alsike clover makes the best of hay, it will surely pay to sow this kind of clover. Nearly all of the farmers in this section sow it in their fields for hay, and are glad of the apiarists' bees to fertilize the bloom so it will form seed, so the bee-keepers in this section do not sow it unless said bee-keepers have farms, and wish the clover to feed stock.

Regarding its nectar-giving qualities, it is as sure as any of the clovers. If the weather is good, and the state of the atmosphere right, large quantities of honey are obtained from this, and the white clover which blooms at the same time. But some years none of the clovers seem to give the bees anything except pollen. A cold, wet season, with a long-continued northerly air, seems to be against a yield of nectar from any of our honey-producing flora, and especially that of the clovers.

Honey Average Per Colony.

"How much honey should an Italian colony average?" is another question. Very much would depend upon location, the management, and the weather while the flowers were in bloom which gives a surplus crop of nectar. Taking the localities where bees are kept throughout the United States, 50 pounds per year to the colony, on an average, among bee-keeping specialists, is about what they secure. My average during the past 40 years has been not far from 80 pounds, mostly comb honey. Best average in any one year was 166 pounds; poorest, 30 pounds. But I am not confined to clover alone for a honey-yield, as the yield from basswood is far better in this locality than from the clovers, and the clover-yield is often exceeded by the flow from buckwheat.

Diseases of Bees.

Then comes the question, "Are bees seized with any diseases or epidemics?" Yes, to a certain extent. They have their wintering troubles, when the bees are seized with diarrhea, on account of being confined to the hive by cold weather longer than they can hold their feces, and if the cold weather continues long enough they not only soil their hives, but their combs and themselves as well, till the whole colony perishes in a deplorable state. However, with cellar-wintering, which is the better, where continued cold is likely during the months of November, December, January, February and March, there need be little fears from this source, for the even temperature of the cellar during this time allows the bees to subsist on very little honey, often not more than 5 to 7 pounds for these 5 months, so that the bees do not suffer at all, and come out as clean, healthy and bright as they do in a section so far south that they can fly every month of the year.

Then we have what is termed "bee-paralysis," which causes the bees to shake and tremble, and the abdomen to swell and fill with liquid till nearly bursting, when they crawl all about the hive-entrance and die, till in bad cases the hive is depleted of bees except the queen and a few attendants, when robber-bees or the wax-moths come in and the colony is ruined. In all cases of paralysis which is bad enough to cause the death of many bees during the spring and early summer, the colony is so weakened that it is not a success at securing a surplus of honey. But this disease seldom amounts to much in the northern portion of the United States or Canada; and, if I am correct, the South is much more free from it than was the case 15 or 20 years ago.

Besides the above, we have black and foul brood, either of which is much worse than all spoken of before. But the progressive bee-keepers of to-day are generally more than a match for any or all of the present known diseases among bees. To enter into a treatise on the diseases of bees and how to cure them would be too long for any one article for a bee-paper. Almost any of the bee-books will tell you further in this matter.

Prices of Bees.

Lastly I am asked, "What price should I pay for a colony of bees in a movable-frame hive along about the middle of May, or in the fall, should I conclude to wait about buying any bees till that time?" They are usually sold at from $4 to $6 in the fall, and from $8 to $10 in the spring, by those dealing in bees. Some bee-keeper living near you might be persuaded to let you have a colony for less. The reason for the difference in price is that there is quite a risk in wintering, as explained above. If 10 or more colonies are purchased of one party, the price would likely be cut somewhat, but if you can get a good colony the middle of May for $8 you would have a chance to get your money back the first year. In an average season, and in an average locality, such a colony of bees should give 50 pounds of honey besides one good swarm. The section honey should bring readily 12 cents per pound, or $6, and the swarm worth $4, at least, in the fall, which would give the purchaser more than his money back, even if he lost his old colony, or 50 percent of his bees during the next winter.

Borodino, N. Y.

Some Observations in Bee-Keeping

BY I. D. PEARCE.

In my early years I was taught to observe passing events in a general way, by which I have found it an easy step to make note of things usual and unusual in my own sphere and its immediate environments, and in my 40 years of professional life (which I have now laid down for one in which, for my declining years, I can have pleasure and a little pin money as I descend the western hillside), I always carefully observed the small details of my manipulations and their results, thus enabling me to improve upon my methods in the future if found necessary.

Bee-culture fascinated me 30 years or more ago, and for more or less of that time I have kept a few colonies in my yard for pleasure and recreation from office duties. Now that I have quit the office, rather than lay myself upon the shelf and rust out, I have entered the list of apiculturists, and as such I find that the field is open for closer observations than I had conceived; and being comparatively a novice, I have found that the bee-papers and other literature added to my *own* notes are of great value.

But a few things occurred in my yard during the season of 1907 that have somewhat unsettled my former convictions.

Controlling Swarming.

Previously I found it comparatively easy to control swarming by cutting out queen-cells and adding more room above. But during the past season, that method in my yard was a complete failure. Swarms would issue from the same hive every day for 3 or 4 days in succession, notwithstanding I would each time cut out every vestige of a queen-cell, return the swarm and see that they had room above. But it did no good; out they would come next day. I finally lifted the hive and put an empty shallow hive below furnished with foundation. This seemed to satisfy them, and settled the swarming question. With this latter arrangement I left them until they had drawn out the foundation in the shallow hive, when I exchanged places with the 2 hives, placing the shallow hive above, and under the super. Later on I confined the queen to the lower story and let them fill the shallow story with honey as fast as the brood hatched out. This effectually stopped all swarming from the start, and I was so well pleased with the success that I will not be slow another season in looking out for plenty of room for a prolific queen.

Ten-Frame Hive Preferred.

My hives are all the 8-frame style and

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I am now persuaded that inasmuch as I don't want so much increase, a 10-frame hive will suit my present ideas and location better. Formerly I was led to believe that the 8-frame hive was the ideal hive for section honey; that it afforded sufficient room for the queen, and the workers began business in the super sooner, and by the tiering-up system the colony was kept busy throughout the season, and with a fair flow a good harvest was the result.

REVERSIBLE BOTTOM-BOARD.

I have also observed that the reversible bottom-board used as its inventor intended is fraught with too much backache in lifting a heavy colony off so as to turn it upside down. Instead of that I use it with the wide entrance down to ⅜ of an inch by taking a strip of board 2 inches wide and as long as the hive is wide (inside measurement) and drive a small nail in the edge at each end, leaving ⅜ of an inch of the nail projecting, and adjust this to the entrance. This has the advantage of contracting the entrance for the winter without the labor of lifting the hive off and then on. It also adds more room below the frames for the accumulated cuttings and dead bees.

QUEEN'S DRONES AFFECTED BY MATING?

Pertaining to the question, "Are the queen's drones affected by her mating?" Turning back to my notes, I find that in July, 1904, I received from a reliable dealer a tested Italian queen of the red clover strain, and her workers for that season were well marked, and in every way were fine bees, but no drones that season. But the following season I had occasion frequently to open her hive, looking for queen-cells (as I was using her for my breeder), and I observed that while most of her drones were light colored and well marked, yet quite a few of them were dark leather colored, and some almost black, yet showing the Italian blood, and quite a few had red heads. The latter marking I had never before obesreved. At first I was inclined to doubt her purity, but her workers remained as at first—3 full-banded and bright. I carefully examined the rest of the colonies (all Italian) but found in none of them any such variety of markings, and there is not another yard within 10 miles of me, although there are some bees in the woods near. So I just let the incident pass for future thought if occasion called it up.

WORKER-BEE IN A QUEEN-CELL.

But in conclusion I wish to make note of one observation that has puzzled me quite a little. During the past season, in my rounds among the bees, whenever I found in my best colonies a ripe queen-cell, I cut it out and put it in the nursery, and when hatched I put the virgin elsewhere. On one occasion I had one that had remained 2 or 3 days over what I thought was its time, so I cut it open to see what the trouble was. Instead of a queen, I found a dead worker-bee fully matured, and in the same position that it would be had it crawled in to feed the larva—head towards the base of the cell. In every other respect the cell was empty. Now the question that I would like to ask Dr. Miller, or any of the "old boys" is, How did that worker-bee come to be sealed up in that queen-cell? Do bees play pranks on each other as some of us old fellows did when we were boys the *first* time? Was that bee a mischievous rascal? and when caught in that cell by its comrades, did they hasten to seal it up? Is it a common occurrence that I have just stumbled upon?

Trout Lake, Wash.

Two Queens in One Hive

BY J. E. HAND.

It is evident from the nature of the argument that has been advanced in opposition to the plural queen system, that this system is not well understood by those who consider themselves sufficiently qualified to criticise it. Therefore it is the purpose of this article to explain a few of the conditions under which this system is not only possible, but profitable, as well as highly desirable.

In discussing matters pertaining to apiculture sufficient allowance should be made for the location and environments of the writer of an article. Viewing the two-queen system from the standpoint of the deep-frame hive, with its slow and tedious methods of frame-handling, it is doubtful if it could be made a complete success. However, it should require little argument to prove to the bee-keeper of average intelligence the many advantages offered by this system when used in connection with the improved sectional hive, with its rapid system of hive manipulation.

Bee-keeping as a pursuit is progressing, and bee-keepers are beginning to realize the necessity of employing short-cut, labor-saving methods. Twenty-five years ago rural electric lines, rural telephones and rural mail delivery, were unknown; today the face of the country is a network of electric and telephone lines, and every rural district has free mail delivery.

The bee-keeper of today, who advocates the slow-going methods of a quarter of a century ago is fast becoming a back number. As the horse-car has given way to electricity, so the old methods of handling, brushing, and interchanging of frames singly, must soon give place to the more modern methods of rapid manipulation by hives.

W. Z. Hutchinson, the veteran bee-keeper of Michigan, sounds the key-note to successful bee-keeping in three words, "Keep more bees."

Louis Scholl, the eminent Texas specialist, goes farther, and tells us that we can keep twice as many bees with a given amount of labor by employing rapid methods of hive-manipulation.

The exhortation to keep more bees is but a hollow mockery unless coupled with the advocacy of those methods that will enable us to do it.

To whom is the exhortation to keep more bees given if not to those bee-keepers who are wasting time in the useless handling, brushing and interchanging of frames singly? It makes no difference how many colonies you are now keeping, if you are handling frames singly you are wasting time that could be put to better use in keeping more bees.

The chief obstacle in the way of successful comb-honey production in the North has been the difficulty of getting all our colonies up to the desired strength in time for the harvest; this obstacle is entirely overcome by the use of the two-queen system, and every colony in the apiary is ready to begin work in the sections at the beginning of the honey-flow, which means a uniform yield per colony for the entire apiary, with no weak and unproductive colonies. Mr. Dadant's statement that the queen is of more value than anything else connected with the colony is literally true. Does not this prove that a plurality of queens increases the value of a colony? A queen may easily be worth ten dollars, and is not the bee-keeper making money who can rear such a queen at practically no expense save for a little time and a little talent?

It is evident that the opponents of the two-queen system are not up to modern methods of queen-rearing, or they would not attempt to magnify the difficulties and cost of rearing an extra queen for each hive. That there is no excellence without labor is as true of bee-keeping as it is of everything else.

Mr. Dadant discourses at considerable length upon the difficulties of rearing queens early enough in the season to produce workers in time for the harvest, and the echo is resounded in an editorial in the Review. It should be remembered that such queens are reared at the close of the harvest, and carried over winter in a single division of the sectional hive.

It has been found more profitable to run our bees upon the two-queen system of swarm control, and at the close of the harvest make our increase at a time when there is nothing for the bees to do, and every colony in the apiary can well spare one division of their hive with brood and bees for this purpose. The young queen is reared in the top division and begins to lay before it is removed. The old queen is not disturbed in the least, and there are still two divisions of the brood-chamber left.

In the spring the little colonies are again placed upon the others, with a queen-excluder and a wire-screen between; a flight-hole is provided for the little colony, and after the brood-nests are well established the wire-screen is removed, giving the bees free access to both queens. When we consider that these young queens are reared from our choicest breeders, it is easy to see the value of this system by way of improving our stock.

The claim that one queen will lay more eggs than a colony can care for amounts to but little in the face of the fact that if a weak colony is placed upon a strong one the combined heat of the two, with the additional force of nurses, will enable the weak colony to rear as much brood as the strong one.

Again, the two-queen system is a safe guarantee against the loss of a crop of honey, by having the colony thrown into an abnormal condition at the beginning of harvest by the failure of the queen, which would be fatal to comb-honey production.

The difficulties of introducing another queen at the risk of losing one of them are purely imaginary, since no introduction is necessary, and therefore no such

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danger exists. It is evident that the rapid introduction of queens is but little understood by those who oppose this system, and who find it necessary to cage queens until they acquire the colony odor. When bee-keepers learn that odor has very little to do with successful introduction there will be less loss in introducing queens. It takes about one minute to introduce a queen to any colony, whether queenless or not.

A medium colony amounts to but little. If you want honey you must have the hive jammed full of bees, and the two-queen system gets them without fail.

If American bees would do as Professor Reepen describes in Gleanings, there would be little use for the two-queen system. He says, "If a strong colony stands next to a weak one during a heavy honey-flow, and succeeds in filling its own hive, it happens now and then that the strong colony will help to fill the hive of the weak one in a most peaceful way."

I've been wondering ever since I first read the article above quoted if those bees boarded themselves and went home at night; and if the Professor has any queens to sell of that particular strain!

Birmingham, Ohio.

Improving the Honey-Bee

BY C. D. BENTON.

There is a difficult problem before every bee-keeper who undertakes to improve the honey-bee. Because many have failed to accomplish their purpose in this direction is no reason why we should quit trying. I am impressed more and more as we strive to lay any plan or basis to build upon, that obstacles in the line of ignorance are the only stumbling-blocks in our ways. I have come to the conclusion that when we speak of pure Italians, Carniolans, Caucasians or black, that the word "pure" is a misnomer. In my experience as a cattle-breeder, that not only must certain traits or types be followed up for a series of years, but a special selection of those traits or types. It would be useless for the breeder to accept every heifer or bull in his flock for improvement. He must make the selection that approaches the ideal on both sides.

We have a recognized standard of purity on poultry and cattle, but the poor honey-bee we guess at, and every one has his own standard.

The word strain seems to me far more fitting than purity. When we sum up the apiaries by scores, who among us can boast of the best strain, either in purity or for business? We find it mostly in the man and not the bee. A Jersey cow gives richer milk no matter who owns her, and hence more butter. But take the best strain of bees under neglect, and soon you have something else. Some will argue that they are pure still, if not allowed to mix with others.

Please examine a colony of drones from the best pure Italian queen procurable, and follow them in a series of years on the supersedure plan, then decide if you have the same drones. The best and purest cattle or chickens that are produced vary with every specimen. What can you expect if all breed together?

Now, can't we first discover that all these drones, like all the roosters or bulls, if allowed the freedom of the flock, you spoil your ideal, almost to obliteration? If you know the queen and the drone with equal knowledge, can't you start on an advance bee? But some will say you can not control or know your drones the same. When (if that be true), where, or when, are you going to make the improvement or advance? The queen only reproduces herself, therefore your advantage must come from the drone. It does not need thousands of drones to breed a few queens; the less drones one can have to secure the proper results the easier to control or make the advance, and to illustrate I will give a simple experiment carried on last summer:

Having 3 colonies for rearing-drones, the first step I took was to open the hives at the proper time and destroy all dwarf drones by pinching them on the frames; next time those showing the least golden color; the third time those that seemed least active by touching them and noticing their activity; the fourth and last time, Aug. 25. I had one hive in which the drones would commence to fly between 9 and 10 o'clock, while, the other hives did not have any flying drones before 1 o'clock. I killed all drones in the last two mentioned hives, and then opened up the hive containing the early-flying drones, all which I destroyed but about 100 sorted ones. I was rearing queen-cells in the same hive, and destroyed all but 9 of its best cells. They hatched in due time, about Sept. 1, and all 9 queens mated, which proved superior to any lot of cells mated through the past season.

I traced the improvement all through the season, and more noticeable the last lot mated. I also crossed the golden drones on some vicious hybrids, and perceived that the trait of gentleness was transmitted in a marked degree.

The prevalent idea is that drones fly a number of miles in mating queens. As I have always had an adverse opinion, I tried a simple experiment with one colony. My golden breeding queen is located close to one corner of the house, and was introduced into a 3-frame nucleus of ill-tempered hybrids, and opening the hive to procure eggs made them so vicious that the children could not play anywhere around the house without being stung. So I devised the following plan:

Getting up early before the bees began to fly, I carried them to a woods about a mile away, and let them fly. At evening I went to the corner of the house and there were about a quart of bees which I destroyed with kerosene oil. I discovered only 2 drones in the lot; there were more than 300 carried to the woods that were all old flyers. Now it seems to me the homing instinct seems to be the limit of flying. (I use the word *Golden* instead of yellow).

I shall experiment more fully by using more colonies next season, as to the drones' homing instinct. I happened to notice 3 virgin queens on their wedding flight, and especially one that made 3 trips before being mated, and not over 10 minutes in all her flights.

We had a poor honey-flow here last summer, so we had to resort to feeding all the time to prevent losing drones. When we have reached the goal, that one can breed any trait or type with certainty, then we can talk of pure bees, of honey-gatherers, of non-swarmers, of gentle ones; also, and not least those bees immune to foul brood. Then we will smile with the Jersey milk maid as she fills the jars with beautiful Jersey butter.

Akin, N. Y.

Keeping Qualities of Honey-Vinegar

BY C. P. DADANT.

In my previous article, I have called attention to the possibility of a putrid fermentation taking place in honey-water as it does in rotting apples or grapes. Even if the vinegar has been made, it may have gone through only partial alcoholic and acetic fermentation, if improperly handled, and a part of its strength used up in putrid changes. Ropiness, which shows in honey-vinegar or wines, is only an evidence of unsound conditions. Your vinegar, if not well made, may be in the condition of cider made in part from rotten apples. This will destroy its keeping qualities, aside from injuring its flavor. The most important requisite of good wine, in order that it may improve with age, is that it should be made from absolutely sound and well-ripened grapes. Thus the keeping qualities of vinegar will depend very much on the material from which it is formed as well as from the manner in which it has been made.

Honey-vinegar made out of a liquid which contains decayed pollen, dead bees or limbs of dead bees as well as other foreign substances, is on a par with cider made of the refuse apples picked under the orchard trees, partly rotten or wormy, or with wine made from unsalable grapes, such as are picked by birds and decayed or riddled by the black-rot and which some inexperienced persons ingenuously describe as "wine-grapes." Nothing good can come from such refuse. I am strongly of the opinion that it is said that crab-apples make the best cider, because such apples are not culled before using. In the same way, good honey will prove to make better and more lasting vinegar than refuse.

In addition to possibly imperfect methods in the production of vinegar from honey or wines, there are diseases of vinegar which have been described at length by Pasteur, the great bacteriologist. The germ of acetification which changes the alcoholic liquid into vinegar is a fungus, the "mycoderma aceti" which may be noticed on the surface of a liquid undergoing acetic fermentation, in the shape of white floating "flowers." This germ continues to develop, even after the liquid is entirely sour, if it is continuously kept in contact with the air, and the vinegar loses its strength and becomes "flat."

On the other hand, there forms, in good vinegar, a microscopic worm, the vinegar-eel, "anguillula aceti." It is a snake-like worm, very active, and large

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enough to be detected with the naked eye, if the vinegar is placed in a very thin bottle or vial in a strong light. This eel is not to be found in vinegar made by the distillation of wood, or in any other of the unhealthy and dangerous substitutes sold for vinegar. So those of my lady readers who may shudder at the idea of swallowing alive a number of eels in salad will rest assured that it is better to use vinegar containing these live "fishes" than the other kind, unless perchance it has been prepared according to Pasteur's methods.

This anguillula is, by Pasteur, considered as another vinegar disease, because they absorb the oxygen and prevent the further acetification of vinegar.

The next disease is the formation of the "vinegar-mother," a gelatinous, viscous substance formed out of the vinegar, and which continues to grow as the vinegar gets older.

Yet in spite of all these diseases, good vinegar, well bunged after it is formed, may be kept for years. It is said that in certain countries, especially in the wine-producing regions, vinegar is kept good for half a century. It must be borne in mind that vinegar was originally made of sour wine only—"vinaigree" shortened into "vinaigre." The vinegar made of honey has the advantage of being almost colorless, and of not retaining the peculiar flavor of apples or grapes which that made of these fruits plainly exhibits.

But how are we to prevent the existence of all these diseases? In the first place, as mentioned in a previous article, the vinegar must be properly made, by using the proper quantity of honey and permitting it to ferment thoroughly, changing first into alcohol, then into vinegar. After the vinegar is thoroughly made, Pasteur indicates a very simple method to prevent any further changes. It is the same as indicated by him to prevent the souring or decaying of wines—heat. Since all changes are due to the formation of different growths or living animalcules or plants, it is only necesary to kill those living germs whether vegetable or animal, to secure an unchangeable liquid, provided the air is excluded. This is a condition *sine qua non* of success, for the air is the vehicle in which all these germs are transported.

A temperature of 130 to 150 dgerees is said to be sufficient to destroy all germs of vinegar disease. The vinegar thus treated may be allowed to settle, and after a few weeks draw off the lees, which is composed of the murdered eels and sterilized fungi. The vinegar will then assume a great limpidity and will keep for years.

In the heating of wines and vinegar, "pasteurizing" is done in closed vessels, especially with wines from which the alcohol would first evaporate, being more volatile than water. In vinegar the heat in closed vessels is less necessary, because acetic acid does not evaporate as readily as water. But more or less of it and of the essential oils will evaporate, which will be readily noticed by the pungent odor escaping from heated vinegar. For that reason it is advisable to keep the vessels closed as much as possible, and to apply heat only long enough to warm the mass thoroughly at the temperature indicated.

If the vinegar is too weak and needs concentrating, it is better to use cold than heat. If it is exposed to a temperature below 32 and above 20 degrees, some of the water will congeal and will show itself in the shape of small crystals, which may be removed by filtering through a cloth. The acid portion of the vinegar is thus rid of a portion of its water. The acid itself would congeal, it is said, if a temperature as low as 14 degrees should be reached.

Iron-bound barrels are not desirable for vinegar unless they are made of very strong and sound staves. The least leak which will permit the vinegar to escape will cause the hoops to rust, for its action is as damaging to iron as that of salt. A good article of vinegar which it is intended to keep had best be bottled, to keep pernicious influences away.

Good, well-made honey-vinegar should not be sold at a low price. Each family uses but a very limited amount of vinegar each year, and well-to-do people willingly pay from 30 to 50 cents per gallon when they know that they are getting a good, clean and healthy article, free from deleterious substances.

Hamilton, Ill.

Report of Michigan Convention.

Pres. W. Z. Hutchinson, opened the convention in the City Hall, Saginaw, promptly at 8 p. m., Dec. 18, 1907.

The attendance was not large, but a considerable number were added during the second day.

Pres. Hutchinson spoke of the expectation that the National Bee-Keepers' Association would meet in Detroit for its next convention. Detroit had given way last year for Harrisburg, Pa., and he said, as also had Pres. Geo. E. Hilton, that the convention would be sure to be held at Detroit. Upon resolution it was decided to hold the next State Convention in connection with the National. A very hopeful tone was manifested, and if the expectation of those who should be in a position to know, is realized, there ought to be the largest turnout at Detroit the National has had for many years.

EXPERIMENTS IN BEE-KEEPING.

R. F. Holtermann, of Brantford, Ontario, in his address on "Co-operative Experiments in Bee-Keeping," pointed to the growth of co-operation in the Ontario Agricultural and Experimental Union of Ontario, which now had over 7,000 experimenters. It had attracted the attention of the leading spirits in progressive agriculture in the United States and Europe, and similar organizations were being formed in those countries. Bee-keepers required something to unite them in interests, and to teach them to observe and come to proper conclusions as to cause and effect. Messrs. L. A. Aspinwall, R. L. Taylor, Geo. E. Hilton, E. E. Coveyou, and others, favored immediate action, and upon the suggestion of Mr. Taylor, it was decided to conduct the following experiment during the following season, with Elmore M. Hunt, Redford, Mich., as chairman of the committee, and all wishing to co-operate in this work should write to him.

A test is to be made as to the effect of a double instead of a single bee-space between the last row of sections and the side of the hive, and to raise the front of the hive ⅞ of an inch from the bottom-board, the brood-chamber closing the opening thus made. It had been stated in the convention that such action would cause the sections next the side of the hive to be filled and capped as soon as the central ones. More bees were thrown between the section and hive, and a larger proportion would go up the side of the hive and enter the super from the side, as they could not so readily reach the bottom of the central combs. In response to a question, Mr. Aspinwall, known to be a very careful and thorough investigator, said he discovered that the old bees were not found in the sections, and that more bees with old, frayed wings were found as one examined the cluster towards the bottom of the hive. The field-bees no doubt gave the nectar to the younger bees, and occasionally one can see bees with their mandibles open and another bee receiving, so there was clearly a transfer taking place. When the brood-chamber was crowded, where was the honey put except in the supers? and there only young bees were found.

EXTRACTING HONEY.

Mr. Coveyou pointed out the importance of experiments in the extraction of honey, such as the best speed at which a honey-extractor should run. The work in this direction was haphazard. Bee-keepers should find out the best method of extracting, and the best machine, and then demand it from the supply-dealer. The best temperature at which to extract should be discovered, the success of the work being gauged by the revolutions and the weight of honey left in the comb when through. Mr. Coveyou used the Holtermann strainer in his extractor, and he wanted a test made of the best temperature at which to strain. Mr. Coveyou, instead of using a blue-flame oil-stove under the extractor bottom when the honey was too cold and thick to strain rapidly, as

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Mr. Holtermann uses, had a double-bottom in the extractor with water between. In this way the unstrained honey at the bottom of the can became heated and strained.

The advantage of a strainer cone-shaped (with the top of the cone cut), and allowing the unstrained honey to rest on the bottom of the can, was that more rapid work could be done, the material strained out settling largely on the bottom of the can, and left the cloth on the side of the cone clean. This refuse could be collected by a paddle with a straight end, and pushed out of the extractor through a hole generally covered with a screw-cap. Mr. Coveyou stated that he never removed the cloth from the cone. He could thoroughly clean it by means of water, neither hot nor cold, and brushing it by means of a whisk.

COMB-HONEY SUPERS, HONEY-GATES, ETC.

The question as to points desirable in the best comb-honey supers brought out a suggestion by E. D. Townsend, to have one drawn comb at each side of the super. This brought the bees up and tended to uniformity in finish.

Mr. Aspinwall pointed out that continuity of passages between brood-combs and sections was essential for passage ways for the bees to take up honey, also for the best ventilation. In constructing his non-swarming hive he made this a feature.

F. J. Miller, President of the Ontario Bee-Keepers' Association, London, Ont., also Mr. Coveyou, advocated in their management for out-apiaries run for extracted honey, hauling home the combs of honey and then extracting, using a power engine. Mr. Coveyou, backed by others, mentioned the undesirable features in honey extractor gates as made at present. They would not stay where wanted, and, when opened entirely, fell entirely over and deflected the stream of honey.

Mr. Aspinwall exhibited a queen-catcher. He had not caught a queen with his hands for 5 years. It consisted of a 14-gauge wire, beat at one end into a circle ¾ of an inch in diameter inside the wire. This wire was dipped into melted wax and held about the queen on the comb when she would step on the wire and could be lifted by it.

T. F. Bingham thought bee-keepers' conventions were not run right. There was too much for specialists; it should be for the plain, small bee-keeper, and there should be full reports in the bee-papers.

Mr. Bingham's remarks were not considered quite correct. Very little transpired which could not be heard with profit by the small bee-keeper, and bee-papers could not reprint from year to year acceptably to their readers long reports of the nature that Mr. Bingham advocated.

Elmore M. Hunt, who has been working very hard to make the Michigan State Association the banner bee-keepers' association in the Union, and who feels confident that Michigan has enough bee-keepers to make it such, attributed the small membership to unawakened interest. It was decided to issue, as was done last year, the "Year Book," giving the name of each member, his postoffice address, number of colonies, amount of comb and extracted honey and beeswax for sale, number of colonies the member wants to purchase or sell, etc. Such a book distributed had been valuable in the past, and would be particularly valuable in a season where the honey crop would be larger.

Mr. Aspinwall gave a new method he had adopted of introducing queens. Late in the fall he made colonies queenless, early in the morning when the colony was lightly clustered he had opened up the center of the cluster and dropped the queen down between the combs. He preferred introducing queens late, say October, and did not want to do so during the honey season.

Mr. E. D. Townsend gave the following practical address on Clarifying Beeswax:

Clarifying Beeswax.

It was about 25 years ago, that a patron brought in some beeswax that was the finest I had ever seen at that time. Since, I have seen some on exhibition that was clarified equal to this sample, or perhaps better. You may be sure I pumped this individual for all I was worth, until I knew, in theory, all about rendering beeswax. This especial lot of wax was in cakes the size, and shape of a brick; and about the first question I asked was, "How did you get it out of the tins, as there is no slope to the sides of the cakes?" His reply was something as follows:

This wax was not caked in tins at all, but instead, five basswood boards, ⅞-inch thick, cut in the following sizes, were used. The base, or bottom of the box, was cut about 8x10 inches, two end-pieces 2x4 inches, (these should be cut very accurately,) two side-pieces 2x10 inches. This completes the box, only you will need a stop nailed on each side of the base; then a wedge, to wedge up the box solid. Set the box up so that the inside dimensions are 4x8 inches, and two inches deep. The material must be planed, and the joints made very smooth.

Now were we to fill this box with wax as it is, the wax would stick, and be hard to get out, even with this knock-down box. To prevent this, soak the box in water for 2 or 3 hours before using, and the wax will come out smooth and nice.

Handled as I am about to describe, there will be no cracking of the cakes in cooling. The process of clarifying is as follows: The wax is melted in a common No. 9 wash-boiler first putting in a pail of water; then filling the boiler with the wax to be clarified, until the wax is within 2 inches of the top of the boiler, when melted.

A tub the size of the boiler, or a little larger, is placed under the wax-press; and the whole contents of the boiler is put through the press. As many tubs are used as we have meltings of wax, or, rather, the number of meltings we put through in one day. The next morning the wax is cool in the tubs, and is removed, and all the dirt rinsed off the wax that we can conveniently, and the wax stored away until all the wax has been rendered, and treated this way.

Now we are ready to clarify the wax. Procure a large wooden box, the larger the better (although you may be able to get along with a moderate-sized one). This is to chop the wax up into small pieces in. Now put 2 pails of clean water into the boiler and fill up with wax, to be clarified. When melted, set in the warmest place you have, but not on the back of the stove, or where there is any fire, for this would keep the sediment stirred up—the very thing you must avoid; now wrap the boiler of melted wax in blankets, to keep warm, for it must be kept in the liquid form for about 6 hours, to be sure of the sediment being all precipitated.

At the end of this time there will be a black scum on top of the wax, which must be removed; then you are ready to cake the wax. For commercial purposes, we cake in 10-quart tin pails, being sure that they are perfectly clean before using. Do not make the common mistake of putting water in the pail before filling with wax; if you do, the cake will be rough on the bottom, and will not appear well.

Procure a quart tin dipper; and as soon as the wax is skimmed proceed to dipping it into pails, to cake for market.

There is a little knack in dipping, so as not to roil the liquid. Let the bottom of the dipper go down into the wax first. That is not quite the idea, either; it is more like this: Dip the dipper into the wax as if you were going to dip out a dipper full, but do not let the lip, or rather the top of the dipper, sink into the wax more than a half, or three-fourths of an inch, then carefully let the bottom of the dipper sink down, until you have a full dipper; then lift the dipper out carefully, so as not to roil the liquid; as I mentioned above.

You can usually dip 3 cakes from each melting, before the sediment begins to show. That part of the wax that is left in the boiler is removed when cool, and the bottom of the cake washed in clean water, and is then ready to be melted with the next melting.

Only one lot is melted a day. This gives plenty of time for the sediment to fall to the bottom of the melted wax, and for the cakes to cool.

Handled this way, the wax is so cool that the cakes do not crack in cooling.

I shipped between 300 and 400 pounds of beeswax clarified this way, last winter. This is what the buyer said about it:

"This is one of the very finest lots of beeswax that we have ever received, and we compliment you on the neatness and skill in which it was rendered, and packed."

E. D. Townsend.

LOSSES OF BEES IN WINTER.

W. J. Manley, of Sandusky, gave a profitable and entertaining address on the subject of "Winter Losses." Mr. Manley thought he should be able to speak with authority on the subject. Last winter he had lost all but one colony out of 125. During the winter of 1903 and 1904 he had lost all out of 225, and yet he made money out of bees by buying again in the spring and carefully rendering the old comb. He

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endorsed what Mr. Holterman had said the previous evening, that some bee-keepers were so situated that they could make money rearing bees and selling them, but not producing honey; others could do better not to allow their bees to swarm, and buying increase if wanted. He attributed his and his neighbors' winter losses to aster honey gathered late in the fall. During the winter of 1903-4 he had rendered enough wax out of old comb in the neighborhood to make over $900 worth of beeswax.

He did not believe in specializing; by engaging in other occupations, he did not have to charge all his time to the bees. During the past season from 65 colonies he had now 91 colonies in winter quarters, and sold over $500 worth of honey. Mr. Manley made a very happy speech.

The addresses and discussions brought out many valuable features which, it was felt, only those who attended the convention could appreciate. The individual talks between conventions where each one could take up what questions specially interested him, and got his information from what he considered the most reliable source, was worth much to those present.

Pres. Hutchinson refused to stand for the presidency again. The election of officers resulted as follows: President, L. A. Aspinwall; Vice-President, E. D. Townsend; Secretary-Treasurer, E. M. Hunt, of Redford, Mich.

Mr. Aspinwall, in his address on "A Year's Experiments," stated that it had been a hard year for him to conduct experiments. The season was bad, and he had rheumatism, and could not put supers on his non-swarming hive when he should. However, only one colony swarmed out of 31, and this when they were so badly crowded that they built brace and bur combs in every direction. He had reduced the slots in the slotted separators to ⅛-inch thickness, giving the bees great standing room between the combs. He found a hive the nearest square the most normal; this with added comb-honey supers gave a cube. He was providing strips between the ends of the frames so as to make them close-end frames in winter. He found the bees wintered better in this way.

Report of the Chicago-Northwestern Bee-Keepers' Convention.

(Continued from page 116.)

COLOR OF HONEY.

Dr. Miller—Dr. Bohrer says that heartsease honey is dark. I have always supposed that to be the case. A few years ago I had some extra white honey rather late in the season. I had no idea what it was. I didn't know for years afterward. I don't know whether I know now. But last year and this year I have had some very light honey. I have serious doubts whether I had anything from white clover. But after the time for white clover I got some white honey, and a good deal of it. I don't know what it could be unless heartsease, for the bees were working very busily on heartsease. Has anybody else had light honey from heartsease? It is decidedly whiter than white clover.

Pres. York.—How many had light honey from heartsease?

Mr. Wheeler—Not this year.

Dr. Miller—Is it sometimes light and sometimes dark?

Mr. Wheeler—I believe that quite a lot of that honey was white clover honey.

Dr. Miller—I don't think so.

Mr. Wheeler—In some seasons they work on both white clover and heartsease.

Mr. Baldridge—I live in the same locality as Dr. Miller. When *he* got light honey, *we* didn't. We had immense quantities of asters, and if we had had good weather, we would have had a great deal of light honey from asters. The woods were filled with asters.

Dr. Miller—We have plenty of asters, but the bees did not work on asters or goldenrod.

Mr. Dadant—I don't care if everybody here said that heartsease honey was dark. I have my own eyes. I have had 25 barrels of heartsease honey, and it was not as white as clover. It was a sort of pinkish yellow—very much lighter than all other fall honey. Heartsease doesn't blossom at the same time as asters. The petals remain, but the seed is ripe. It still looks like a bloom. Heartsease blooms from the beginning of August until the asters come. Aster honey is just as white as white clover. We had 4 or 5 barrels of aster honey. I said to the men at the end of the season, "We have made a big crop, but the end is here. I don't think we will get anything out of asters." But we had a great deal of honey, and it could not come from anything else than asters. Heartsease honey is not dark, and is the nicest selling honey that you can find. It is not dark nor is it a bright yellow.

Mr. Baldridge—In my locality we have no heartsease to mention. The honey I had at the time asters were in bloom was very white. I believe it was gathered from asters.

Dr. Miller—Another reason that makes me think it was heartsease honey, besides the fact that we didn't see the bees working on asters, was the fact that the pollen carried in was exactly like the pollen that I saw them gather from heartsease. Mr. Dadant says that heartsease honey is light. Others say it is dark. He is so positive about it. (I don't want to put any more confidence in him than he deserves!) His honey is lighter than that of others. If there can be that much difference in heartsease, I believe that my honey can be lighter than Mr. Dadant's. There was so much difference in time between the bloom of clover and heartsease. The pollen was exactly like heartsease.

Mr. Dadant—There are some 20 different kinds of heartsease. Is it not possible that some kinds yield darker honey than others? Probably the kind that Dr. Miller has is different from what we have in Central Illinois, and they can be still different from those in Kansas. This explains the difference.

Dr. Miller—Until within a year or two heartsease has been very scarce. Practically none. This year a great deal of it was to be seen.

Mr. Taylor—What is the color of basswood honey?

Mr. Wilcox—Nearest white of any honey that we produce in Wisconsin. It is nearer a milk white. I produced heartsease for a good many years. I never yet produced any that was light-colored. This evening is the first time I ever heard or read of it. We have a plant that blooms on old worn-out fields. It is a species of the horsemint. You will know when the bees are working on it. Their backs are covered with a silver-gray dust. That honey is very light, almost white. It grows at the same time heartsease does, just before the basswood, or at the commencement of the basswood flow. The bees might have been getting that when you thought they were getting a clear crop of heartsease. Otherwise, I should say that heartsease honey is dark, but has a lighter color than basswood.

Pres. York—Does soil have an influence on the color of honey? I understand that the color of alfalfa honey is different in Arizona and Utah than in New Mexico. I understand that soil is resposible. How many agree that basswood honey is lighter than clover honey. 5. How many do not agree? About the same number.

Mr. Taylor—Why couldn't it be just so with heartsease honey? Take the clovers—every different kind of clover produces a different kind of honey. If different clovers vary, why not different varieties of heartsease?

Mr. Wilcox—I like that. There are two species of basswood in my locality. The two kinds of wood don't put out leaves in the spring at the same time. There is a difference of about 2 weeks in the time.

PURE FOOD LAWS AND HONEY DEMAND.

"Have the pure food laws enacted by Congress and the different States caused a greater demand for honey?"

Mr. Taylor—No.

Mr. Wilcox—Yes. I have always been a strong advocate of the pure food law. I am very pleased with it. We have what we asked for, and should be glad. The pure food law enables the customer to have some confidence that the thing he buys is what he calls for. I cannot buy enough honey to supply my customers. I am getting more orders, and am confident that some of it comes from the confidence in the goods.

Mr. Taylor—I think we are fooling ourselves. I have always thought so. I don't think that the pure food law has the least effect here in Chicago. It doesn't apply to honey here in Chicago. It applies only to interstate commerce. A man can make all the adulterated honey he wants to, and sell it in Chicago. If the State law is enforced you will get less of it. If you don't enforce the law you will get the same as before. It is foolish to attribute the increase in the demand for honey to the pure food law. It is due to the fact you haven't got honey. People want it when you haven't got it. That accounts for all the advance we have so far.

Mr. Arnd—The pure food law has driven a number of concerns in Chicago out of the honey-business. A great

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many wholesale grocery houses are now putting up their own honey. They buy honey and put it up themselves. A number of so-called honey-dealers have gone out of business here in Chicago.

Mr. Taylor—You have enough left to supply Chicago. In my State I have traveled a little this fall. One day I came across a horse hitched to a covered rig, and as we stopped at the place I inquired of the driver what he had, and he said he had medicines and bottles of all kinds and no labels. I asked him where they came from. I learned that instead of shipping them from where they were originally made, they were transferred to Saginaw county. They can ship from there to another place. Honey-dealers left Chicago and have gone to Indiana, and are continuing.

Dr. Miller—Will you tell us what drove out those few that have gone.

Mr. Taylor—You have enough left to supply Chicago.

Mr. Arnd—It isn't likely that a large grocery house would have a house in every State in the Union.

Mr. Dadant—Here are facts. We have been dealers of honey for 40 years or more. We never thought that we could sell honey to small grocers. We never tried to. Four years ago I got acquainted with a grocer in Keokuk. He handled Chicago honey. He said to me, "You sell your honey at 10 or 12 cents a pound in small packages. We can buy honey in Chicago so it can be handled for 10 cents a pound. We like to handle pure goods, but must meet the price." I met him again last fall. He then said, "We are compelled to use pure goods, and I am glad of it. We will have to use pure honey." I asked him if he could handle our honey now. He took $600 worth of honey that season. And he is still handling our honey. He used to handle manufactured honey. Such is sometimes labeled "Artificial Honey." The pure food law has helped already, and it is going to help. The pure food law went into effect January 1, 1907, but no one was prosecuted until October.

Mr. Taylor—The pure food law did not affect that.

Dr. Miller—The pure food law went into effect last January. There is a prohibition law passed down in Alabama. It doesn't go into effect until January, 1909. But it affects the liquor business. It has its effect before the law really takes effect. These are facts that have an indirect bearing. Where I live, it was common to see impure goods year after year—syrups, jellies, and all that sort of thing. I never saw on the labels anything that said anything was wrong with them. Now I see largely a corn syrup. On another can that formerly was sold as honey-drips, now has such a percent of corn-syrup. You won't find a can or jar that doesn't say pretty plainly on it just what it is. If those fellows have gone to some other place, they don't send their goods to Marengo.

Mr. Wheeler—I see about as many grocery stores as any one here. Lots of these wholesale houses are labeling their articles a certain brand. They have "So-and-so's" brand of honey. They don't call it "pure honey." The storekeeper can retail the stuff for 20 cents per pound fruit-jar. They have it in jars from one pound down. They have a way of dodging the law so that you people don't think of it. People don't look for the word "Pure." They see the word "Honey" on it, and buy it. There is a lot of this kind of goods put on the market that I don't consider pure, and a great deal sold, especially in the poorer districts. Every store has some sort of honey in it. It is sold under different brands, just as the "Old Manse" brand of maple-syrup. The dealers claim that if they use the word "brand," it simply means the same article as has been put up for years before. It is the same article under the same name. I think you would be surprised at the amount of honey in the stores today.

Dr. Miller—What is there in the price to make him think that it is not pure honey? What are the prices?

Mr. Wheeler—In the size of packages. A pound and a half of honey can not retail at 20 cents.

Dr. Miller—Can pure honey be offered at 20 cents for 1½ pounds?

Mr. Taylor—Perhaps there is one way in which the pure food law will do good. If the people become convinced that the law is carried into effect, and that goods are all properly labeled, what will be the result? Not that they will eschew all syrups and jellies, but if they like them they will buy them, still resting upon the law that they are getting just what the law calls for. Many people like these syrups. Chemists tell us they are just as good as honey for eating. Under such circumstances they will buy it just as largely—maybe more largely than before.

Dr. Miller—Do you think that what was called the "Wiley lie" hurt the sale of honey any? No? Then he is in a class by himself.

Mr. Taylor—The cry made by the bee-keepers affected the sale of honey. If they had made no fuss there would hav been no trouble.

Mr. Moore—This discussion strikes very close to me. I have an experience of over 20 years, confining myself to family trade. I have been in touch with wholesale trade, and have a pretty general view of the situation. To use the word "honey" on the package in question, if it is not *all* honey, is illegal. "Pure" is not necessary. Pure goods don't have to be labeled at all. "Honey" means "Pure Honey," only, and always. Is it possible to sell a pound jar at 20 cents? California honey can be sold for 11 cents. So 9 cents would be plenty of profit. It is not necessarily impure because it is sold at 20 cents. In regard to the pure food law. I am much interested in the law. Away back of January 1, there was an effect on commerce in Chicago, even before the grocers were talking pure food law. People began to label their goods truthfully. The public has a wholesome respect for Uncle Sam. As soon as Uncle Sam took an interest in the pure food business, people began to "sit up and take notice." As far as I know there hasn't been an effort in the United States to enforce the law. It has been a self-enforcing law. Because of respect for Uncle Sam it has an effect, a very natural effect. My honey is always pure. People buy it with a freedom never known before. They have confidence that Uncle Sam will punish a man who sells impure honey. Lack of confidence is a natural thing. The confidence that people have in Uncle Sam helps every one to sell honey, whether this advertising is making people more skeptical or more careful as to whom they buy honey from. As to the Wiley lie, I have fought against it for years. I have sold mostly extracted honey. I have very often been asked, "Did you make it yourself?" People believe that honey is manufactured. Wiley started it, and the reporters have helped it along for the sake of sensation. It is no use for people to say that the Wiley lie has not hurt bee-keepers. Hundreds, I believe, had quit buying honey until they got acquainted with me. Then they bought it because they believed in me. The Wiley lie stopped people from buying honey because they believed it was made by somebody, and not by bees.

Mr. Taylor—I have sold a good many tons of honey, and never said anything about the Wiley lie to any purchaser. Neither has anybody asked me if I made that honey myself. He has been crying and shedding blood and tears over the Wiley lie. Of course, people will ask him. You say, from what we have heard, that these grocers are full of false honey. Call it what you will, it is evidently not pure honey, whether it is correctly labeled or not. Who knows whether the Government has punished any one?

Dr. Bohrer—I am much interested in the Pure Food Law. If you have a defective State law, revise it and make it an effective one. I am much interested in the production and sale of extracted honey. I think that is the best shape for it, the most healthful. Some say there is an article being sold in Chicago that is not honey. If such is the case your Legislature is not treating you right. Revise the law. In Kansas no one dares sell anything under a false label. If he puts the word "honey" on it, and it is not pure honey, that man is handled, and not with gloves. However, under the National Pure Food Law, you do not dare ship honey from one State to another unless it is pure, without danger. People who see the label "Honey" on a jar say that it is "honey." The pure food law does not allow it to be sold under a false label, so now people do not question it at all. Merchants dare not handle anything but what is pure. If you want to produce more honey and with less labor, begin to produce extracted honey. You will all find it to be an advantage.

Mr. Wheeler—Dealers use a certain mark that is permissible by law. The word "brand" is used a good deal. The goods are sold so cheap.

Dr. Bohrer—Are you sure it is not pure honey?

Mr. Wheeler—Pure honey is much higher in price than it was a year ago.

Mr. Moore—The National Bee-Keepers' Association put $200 in my hands to help clean up the Chicago honey market, and I claim that there is no man better able to give an intelligent opinion. Truth

should be published. Owing to this fact, that I was retained by the National Bee-Keepers' Association to clean up the Chicago market and stop the fraudulent sale of honey, I have been in close touch with this market. Shortly after the time that I speak of, the Illinois Pure Food Commission went into business. Then we began to make a collection of samples. We found at that time between 20 and 30 different kinds of bogus honey on the market. We arrested one man. He was discharged by the Justice because he swore he didn't know it was impure. Since the organization of the National Pure Food Commission the conditions have been better. For the last 5 years the Chicago market has been practically bare of anything but pure honey. Those facts should go forth to the public.

(Continued next month)

Editorial Notes and Comments

(Continued from page 135.)

Mr. Titoff—Russian Apiarian Expert

Abraham E. Titoff, a young Russian, came to the United States about 5 years ago to learn bee-keeping. He worked for some time with the A. I. Root Co., and later went to California, where he reared queens. Recently he passed through Chicago on his way back to Russia, where his title will be, "Expert in Apiculture, in the Russian Department of Agriculture, in Charge of Apiculture, in Province of Kieff."

Mr. Titoff has learned to speak the English language quite fluently during his 5 years' residence in America, and returns to his far-away Russian home imbued with the spirit of progressive apiculture that abounds in the United States. We wish him every success, and hope that in the years to come the old American Bee Journal may frequently be favored with something from his pen about apiarian conditions and prospects in Russia.

Please Patronize Our Advertisers

There are very few papers that could be published very long were it not for the advertising patronage extended to them. And in order that such advertising may be continued, it is necessary that it be made profitable to those who order it and pay for it. In view of this we wish to urge our readers to patronize the advertisers in the American Bee Journal. This will encourage them to continue their advertisements, and thus help the publishers to get out a good paper. Any one who has had experience knows that a bee-paper is no bonanza, and that there are many other lines of business that are much more profitable. But publishing a bee paper is a clean, honorable business, and we have enjoyed the work immensely for more than a score of years, even if we have not grown rich at it. We feel, however, that we have been permitted to do some good by helping bee-keepers in their work with bees. So in return, besides a prompt payment of subscriptions, we simply ask that our advertisers be patronized liberally, not forgetting always to mention the American Bee Journal when writing to them, all of whom we believe to be thoroughly reliable.

"Southern Bee Culture"

This is the title of a new work of some 140 pages intended to be adapted especially to bee-keeping in the Southern States. Its author is the Georgian bee-keeper, J. J. Wilder, and while the general principles of bee-keeping are the same North or South, it will seem more

J. J. Wilder.

natural to a Southerner to read of swarming in April than in July. Some 20 pages are occupied with illustrations of hives, bee-keepers' implements, etc. In the last 40 pages are found articles regarding bee-keeping conditions in the different Southern States, each written by a resident of the State of which he writes.

The pamphlet is in paper covers, well printed on good paper, and it is to be regretted that lack of care allowed some blunders in writing, as where it is said, page 9, that a worker becomes a field-bee when 8 or 10 days old; or on page 6, where the royal larva is said to be fed 6 days, when "the queen enters her larval state in the cell, and continues thus for about 10 days."

The author favors Italian bees, and of the two kinds of black bees found in the South prefers those with "a brownish waist, and short, dubby abdomen.". The other variety is black, and has a longer and smaller abdomen, seeming to be a wild race, "very spiteful, and furious stingers."

The price of the book is 50 cents, postpaid; or with the American Bee Journal for one year—both for 90 cents. Send your orders to 118 W. Jackson, Chicago, Ill.

Tennessee State Association

At the close of the Course in Apiculture given at the University of Tennessee, at Knoxville, recently, a State Bee-Keepers' Association was formed. The following officers were elected: President, Prof. G. M. Bentley, State Entomologist and Plant Pathologist, Knoxville, Tenn.; Vice-President, Henry Cook, Springfield, Tenn.; and Secretary and Treasurer, John M. Davis, of Spring Hill. Much enthusiasm was demonstrated in the organization of this association, the list of membership has increased rapidly, and additional names are being received daily. The annual meeting is to be held conjointly with the State Horticulturists and Nurserymen in Nashville during the last week in January, 1909.

Apiarian Pictures

We would be glad to have those who can do so, send us pictures of bee-yards, or of anything else that would be of interest along the bee-keeping line.

By W. A. PRYAL, Alden Station, Oakland, Calif.

A Year of Flowers.

Such a wealth of blossoms I hardly remember ever seeing before. No matter where I go over hill and dale, the earth seems carpeted with beautiful flowers. Fruit-trees are a mass o'bloom—the cherry tree seems to have the most blossoms, and it is immaculate in its snowy whiteness. Why, "the old apple-tree" is not "in it" with our beautiful cherries. And "the hum of the bees in the apple-tree bloom" is a far echo to the roar of our bees when they sail into the petals of our cherry-bloom. The coming of the white squadron or fleet to San Francisco will not create a greater

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commotion than the bees make amid the blossoms of a large cherry tree.

In company with a few friends I took a walk into the Contra Costa mountains near here lately, and I noted acres and acres of California dewberries in bloom. I never imagined these plants looked so pretty when in blossom. And how the bees sported amid the flowers! They made more merry over the feast they were enjoying than a lot of children at play on a summer's day. I noticed that plant-growth on the east and north sides of the hills and mountains was putting forth a mass of nectar-secreting flowers. Now let warm nights come in May and June and the honey-combs will bulge lusciously white with honey fit for the most delicate palate. But withal nature now seems to have provided a rich floral garment, the days yet to come may take the color and "starch" out of it, so that it will be neither a thing of beauty nor a joy to the bee-man's heart.

Agave Americana It Is.

In the February number I stated that a question was raised as to the correctness of the botanical name of our Century Plant. The "jury" I mentioned that had the name of the plant under consideration reports that the name as we have so long known it by is the correct one—so *Agave Americana* it is, and so it will remain.

Foul Brood Not Here.

A young gentleman who had kept bees in New York State, came to see me recently and said he would go into the bee-business in the northern portion of the State if he were sure his apiary would not be ruined by foul brood. He was astonished to learn that this dread disease is unknown in this part of California; at least, it has never secured a foothold here. It never got into my apiary, and during the long period I have had to do with bees I never saw a case of the malady—and I hope I never shall.

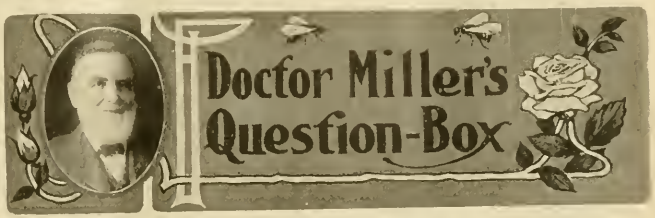
A "Slumgumming" Invention.

Flashed under the Pacific from our far-away Honolulu the startling and important news comes to us at the close of March that a couple of bee-keepers (the cablegram didn't state whether or no they were Kanakas) have invented a process to obtain wax from slum-gum. What the process is the newsman sayeth not. And the average newspaper reader I am sure knoweth not what the dignified word "slumgum" means; possibly, it may be taken for the garbage raked from the slums by the Salvation Army. But be that as it may, the bee-cultural world awaits with some interest more light on the new way to make slum-gum give up the wax it so persistently retains within its grasp, much to the exasperation and loss of the bee-keeper.

Cheap Hawaiian Honey.

Not long since I had occasion to visit one of the large baking establishments in San Francisco, and while there I learned that they use large quantities of honey—a dark sort they get from the Hawaiian Islands. This honey is far worse than the worst produced in California, but to the manufacturing baker it has two things that commend it to his consideration; it is darker, and, better, to him; it is dirt cheap — corresponding, of course, to its turbid color. I was told this honey is purchased at the astonishing low price of 3 cents a pound. I said "low price," but really that is high for the rank article.

This is another case, to my way of thinking, where the American producer "gets it in the neck" by our country's mad rush after insular possessions. It lets down the protective barriers when the Trust is benefited. In this case it is the Biscuit Trust, so-called, that secures cheap "foreign" honey when otherwise it would have been obliged to have a better grade of the home product at a somewhat higher price. But I must not write, I suppose, on such economical subjects—it may not suit the tariff defenders and the—well, I have said enough.



Send Questions either to the office of the American Bee Journal, or to
DR. C. C. MILLER, Marengo, Ill.
Dr. Miller does *not* answer Questions by mail.

Improving Bees Under Natural Swarming.

Replying to E. H. Upson, page 122, while it is very true that one can improve his stock while allowing natural swarming, and while it may for some be the most convenient way, it is certainly better, for one who wishes to avoid swarming, to avoid cells from swarming stock. Because there can be little doubt that swarming is to some extent an inherited trait. It will be noted that on page 55 colonies are not selected because swarmers, but because superior in other respects. Even if the plan given on page 55 be used, a colony not given to swarming is to be preferred. It can be forced into swarming by having brood given to it from other colonies. C. C. MILLER.

Best Comb Honey Hive — Dudley Tube — Other Questions.

1. What is the best kind of hive for comb honey?

2. What is a Dudley tube? What is it used for, and how is it used? Where can I get one?

3. Do you like the Danzenbaker hive for comb honey?

4. Why do people advise not to feed bees in the spring?

5. I have no small trees in my apiary, and I don't wish to climb tall trees after swarms, or clip the queen's wing. Will an Alley trap prevent loss of swarms? If so, how?
NEW YORK.

ANSWERS.—1. Bee-keepers are not agreed upon that question. For my own use I like the 8-frame dovetailed with Miller frames. Unless, however, one gives very close attention to the business, a 10-frame hive is better.

2. If I am correct it is a tube which allows bees to pass readily from one hive-story to another, but only in one direction. Its purpose, if I am not mistaken, is to confine the queen to the lower story, but to allow the bees from above to join the queen as fast as they emerge from their cells. I don't know whether any one sells it.

3. Not so well as the simpler dovetailed.

4. Because of the danger that more harm than good can be done by it. Of course, if there is danger of starvation, feeding must be resorted to. But if there is abundance of stores in the hive, the feeding from day to day may stir up the bees to fly out when it is so cold that they will become chilled and lost. In exceptional cases, such where there is an interim of good weather with a dearth of forage, it is a good thing to feed so as to induce the queen to continue laying.

5. The trap will catch the queen, and the swarm will return to the hive. Then when you find a queen in a trap, you can take away the frames of brood with a sufficient number of bees to protect the brood, put them in a hive in a new place, releasing the queen in the hive on the old stand, and you will have about the same condition of affairs as if you had allowed the bees to swarm in the usual way.

Increase Without Swarming.

How can I double the number of my colonies without letting them swarm, and without buying queens? MISSOURI.

ANSWER.—Just before you think there's danger of swarming, put all the brood in an upper story over an excluder, except one frame with little or no brood that you leave in the lower story with the queen, filling the vacancies in both stories with empty combs or sheets of foundation. Five days later remove the upper story to a new stand, and the bees will do the rest. The queenless part will rear its own queen, and the flying force will remain with the old queen, ready for good surplus work. This is not the very best way to rear queens, but it fills the conditions of your problem.

Requeening—Kind of Hive.

I am not able to do hard work, so I have decided to try the bee-business for a living. I have only 7 colonies to start with, and they are mostly the black bees, yet they did well last season. I wish to get some Italian queens, but my hives are so constructed that I can't get at the queen. It is a plain box-hive with 8 or 10 brood-sections and a super above for 24 to 32 sections for honey. What kind of hive should I get, and how shall I get rid of the old queen, etc.? MISSOURI.

ANSWER.—You can do well with almost any hive with movable frames. Perhaps none would suit you better than the one most commonly in use, the dovetailed hive, a very plain hive with frames of Langstroth size, 17⅝x9⅛. You can get this hive from any dealer in bee-supplies.

Early Swarming — Two Queens in a Hive — Wiring Light-Brood Foundation.

1. On March 5 my father had a strong colony of bees that cast a fair-sized swarm, and I heard of another colony in this locality swarming 3 or 4 days earlier than that. On examining the bees a week after they swarmed I could not find a drone in the yard, and but very little drone-brood, and not much of that capped. Will not the young queen of the parent hive be too old to be mated by the time the drones are flying?

2. When running 2 queens to the hive, one below and the other above the excluder, which queen are the bees most likely to kill, the upper or the lower one?

3. For light brood foundation in extracting frames, would you advise wiring the full sheets or using the splints? MISSOURI.

ANSWERS.—1. The question arises whether so early as March 5 the swarms were not hunger-swarms or something else abnormal. The fact that you could find no drones nor advanced drone-brood squints in this direction. Yet you are in latitude 39, and I don't know how early you have regular swarming. If these were regular swarms, there is some

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danger from lack of drones, but often there may be a few scattering drones that you would not easily notice.

2. You probably have reference to the Alexander plan of putting a weak colony over a strong one in spring. If either queen is killed, it is likely to be the upper one.

3. I should use splints, and should be a little careful, first time putting frames in extractor, whether splinted or wired.

Using Empty Combs—Dewey Foundation Fastener — Selling Comb Honey to Hotels—"Pound" Sections.

1. I have a number of empty combs. Can I place these over strong colonies with an excluder between, extract the honey as fast as it comes in, and feed it in an Alexander feeder at night, to the colonies run for section honey?

2. Have you ever used the new foundation-fastener? I think it is the Dewey Automatic. Where is it made?

3. Did you ever try to sell comb honey to city hotels? They buy it readily here.

4. Why do some producers keep harping about a pound section when there is no trouble in selling it by the piece? This kind of agitation is detrimental to all concerned.

MASSACHUSETTS.

ANSWERS.—1. Yes, but it is a question whether it will pay.

2. I have not had one long enough to give it a thorough trial, but it seems to be an excellent machine. I think it is made by the inventor, E. H. Dewey, of Massachusetts.

3. I never tried it, out it's a good thing to do.

4. I'm not sure just what you refer to. There can be no objection to selling by the piece; but there may be very decided objection to selling 14 ounces for a full pound.

Feeding Bees Glucose, Sorghum and Candies — Packing for Winter.

1. Is syrup that contains 95 percent glucose and 5 percent sorghum good to feed to bees?

2. Is candy such as lemon drops or any kind of run-through-each-other candy good for bees?

3. Will bees winter on their summer stand if covered all around with ½ foot of the following: Sawdust, shavings, or straw, and covered with boards to keep sawdust around?

WISCONSIN.

ANSWERS.—1. No; glucose is not fit stuff for man or bee. If fed when bees are flying daily, and in such way that none would go into surplus, it might do no harm; but it is doubtful if you could get bees to take it in such large proportion.

2. Fed in spring for brood-rearing, it would be all right, and some of it would be all right for winter. You know there's much difference in candy, that made from pure sugar making good winter food.

3. Very likely, especially if not in a windy place; but 3 or 4 inches might be as good as 6; some think better.

Wants Increase and Honey—Queen and Drone Traps—Bee-Escapes—Selling Honey.

1. I have but 5 colonies of bees, therefore I am after increase and honey combined. What is the best way to increase, and how about so doing with the frames from the stronger colonies?

2. How about the queen and drone trap catching a queen when swarming? Would it pay me to buy one?

3. As I am not thoroughly experienced yet, would you advise buying one or more Porter bee-escapes?

4. My bees wintered well, and I am very glad of it, too. I am looking for a good year, and if I do have a good flow of honey, say 150 pounds for 5 colonies, how would you advise me to dispose of it?

INDIANA.

ANSWERS.—1. It isn't an easy thing to tell what is your best way to increase. For some natural swarming is best, and for some artificial increase is best. If you depend on natural swarming, and want also to get a honey crop, then plan to have only one swarm from each colony. When the prime swarm issues, hive it and set it on the old stand, the old hive close beside it. A week later move the old hive away 10 feet or more. That will weaken the old colony so it will not swarm again, because the field-bees will all join the swarm; and the swarm will be thus strengthened so it will do good work in the supers.

Yes, you can increase by the nucleus plan, having a laying queen in a nucleus and adding frames of sealed brood taken from strong colonies. If you take these frames of brood in sufficient numbers about the time bees are likely to swarm, the old colonies will not swarm.

2. If there is no one on hand to see when a swarm issues, it will be a good thing to have a queen-trap to catch the queen. But you will still have the case to deal with just the same as if you had been on hand to attend to it.

3. You can get one escape and try it, and then you can tell better whether you want more.

4. With no larger quantity than you mention, there would be no trouble in selling at good prices directly to consumers. A sign, "Honey for Sale," facing the roadway, would likely bring enough customers. You could also trade honey for groceries, blacksmith bills, etc.

Management to Prevent Swarming.

The season of 1908 will be my first trial at the production of honey. I have 38 colonies to work with, do not want any increase, but will not complain if a small number of swarms issue. I can devote from 8 a. m. to 4 p. m. each week-day in the apiary. All brood-combs will be straight, and reasonably free from drone-cells. Ten-frame dovetailed hives will be used, an extracting super used as the first super and a comb honey super be placed between the hive and extracting super several days later. Then when both are well started in, they are to be reversed again; that is, the extracting super placed next to the hive. When more room is needed new supers will be placed above the extracting super, but always under the comb honey supers already on. Now if there is back ventilation at the bottom of the hive, and a bee-space opening made by sliding supers forward on the hive and each other, will the bees swarm to any great extent? You see, I have the time to sort over unfinished sections found near the opening and can place them in the next super going on the hive. Then toward the close of the season ventilation will be reduced from the ton in order that the sections be better filled out and the unfinished work will be found in the extracting super. I have studied your several ways of preventing swarming and will use them if you think that this plan is not sufficient to reduce swarming to a small percent.

IOWA.

ANSWER.—Yes, your plan ought to reduce swarming to a very small percent, especially if drawn-out combs are in the first super, but just how satisfactory it will be as to sections remains to be seen. You do not say, but I suppose all supers after the first are to be section-supers. Then you say that at the last the unfinished work will be found in the extracting super. That sounds as if you meant to practise extracting until the close of the season. If you do that you will have work mostly in the extracting combs.

Combs Built Together.

I have a colony of bees in a Jumbo hive. I think it is queenless. It is full of honey, very heavy. I tried to take out the frames to see. The combs are joined together with burcombs. I got the division-board out by cutting loose from both sides. Then I tried to cut loose the frame, and the honey ran too much. I was afraid to keen at it as the combs seem to be so solid together. They all seem to be that way. What is the best thing to do with it, or how would I best manage it? I have 3 more like it except that they are not queenless. What must I do to prevent them from joining the combs together hereafter? I don't see how the combs can be manipulated.

WEST VIRGINIA.

ANSWER.—First, as to prevention. If you use full sheets of worker-foundation, as many of our best bee-keepers do, there is practically no danger of crooked building. Even if you have only a shallow starter, there is little danger, for if each comb is started at the top at the middle of the top-bar, the bees will not vary much from the perpendicular in building down. Without wiring or splints, there is danger, especially if a strong swarm is thrown upon the frames, that there may be some breaking down. So it is well in such cases to examine the frames within 1 to 3 days, and correct any wrong of the kind that may have started.

As to what should be done with those already on hand in which there is some crooked building, much depends upon just what the condition is. It may be that only one or 2 combs are out of the way, in which case a little cutting will free the comb from the frame to which it is partly attached. Even if every comb in the hive is built wrong, if each comb is attached properly to its own top-bar throughout most of its length cut away the small part that is attached to the wrong top-bar, then crowd back the comb into its own frame, secure it there by tying strings about it, and the bees will do the rest.

It is just possible that nothing was used in the way of foundation or comb for starters, and the combs are built crosswise. In that you are to consider that you have, practically, a box-hive on hand, and you will deal with it just as you would with a box-hive. It is, however, just a little better than most box-hives, because you can take a hand-saw, cut away all attachments of comb to the sides of the hive, turn the hive upside down, and force out the whole business, frames and all, lifting off the hive. If you wait till the colony swarms, you can deal with the case 21 days after swarming, when there will no longer be any worker-brood in the hive.

Starved Brood—Dividing Colonies.

1. I am a tenderfoot in the bee-business and would like some information. I have 13 colonies and there are 5 of them that are carrying out brood almost ready to hatch. What is the trouble, and how can I prevent or remedy it?

2. How can I get the moth or wax-worm out of the foundation frames?

3. When is the proper time to divide colonies? My bees came through the winter in fine shape and are extra strong.

4. I have some old colonies that have a dark red substance on the division-board and frames. They appear to be healthy and all right.

5. When you answer this letter please use plain U. S. language as I have no book-learning.

OKLAHOMA.

ANSWERS.—1. In the spring of the year the bees are likely to use large quantities of stores in rearing brood, and it generally takes several years for a beginner to learn that unless they have a big lot of honey on hand there is danger of starvation. You have on hand, almost certainly, a plain case of starvation, and of course there is just one way to prevent or cure, and that is to feed.

2. Prevention is ever so much better than cure. The way to prevent the wax-worm from getting in its work is to have strong colonies of live bees. Even black bees will generally hold their ground, if colonies are strong; and a weak colony of Italians will also hold its ground. The same thing (strong Italian colonies) will also serve as a cure. You can, however, give the bees some help by getting out the big, fat fellows. Take a sharp-pointed wire-nail, or something of the kind, and pick open the burrow of the worm at once, then commence at the other end and dig along until Mr. Worm comes out, and then take vengeance on him. If you have empty combs infested with worms, take a small oil-can filled with gasoline, and squirt a little of the gasoline into any place where you think there is a worm.

3. Generally when bees begin to swarm naturally is the best time to divide, or as soon thereafter as colonies are strong enough.

4. The bees have been troubled to some extent with diarrhea, and it is their droppings that you see. They prefer to empty themselves when on the wing at some distance from the hive, but when confined too long, or when troubled with diarrhea, they empty themselves in the hive or at the front.

5. I've tried to give you my best brand of U. S. talk, and if you find any words not entirely satisfactory, return them and I'll replace them with fresh stock.

Rearing a Few Queens—Making Increase.

1. How can I rear a few queens for increase? I have the "A B C of Bee Culture," "Langstroth on the Honey-Bee," Cook's "Manual of the Apiary," "Forty Years Among the Bees," Doolittle's "Queen-Rearing," and "Improved Queen-Rearing." I also have some smaller books. The first three have been revised since I bought. Now it is Doolittle that has bothered me, as it seems his book gives one the impression that he must graft in order to get good queens. I tried it once and failed. Anyway, I think so many books are confusing to any one without experience.

2. In your "Forty Years" (page 238) you recommend partly drawn out foundation with larvæ. Dr. E. E. Phillips uses larvæ. Mr. Alley, in his book, and Swartmore in "Increase" (page 8), use eggs. Mr. Doolittle says bees will not start cells at once, and that being so, why would it not be better to give the bees eggs instead of young brood?

3. Would it be best for me to use a swarm box to start the cells and then have them finished over an excluder in a very strong colony, or put up the queen about swarming time, and rear queens in the lower hive, as you speak about on page 166 of your book, using foundation with eggs or brood; or would you advise some other way?

4. How would I best make increase? What I want is to double my colonies and secure extracted honey, too. I would make 3 colonies from 2, but they swarm when made that way, or at least they did when I tried it. MAINE.

ANSWERS.—1. I don't think I can give you any better way than that given in "Forty Years Among the Bees," except that I wouldn't now use the fussy way there given to get cells started. Instead of that I'd take any strong colony that happened to be convenient, take away its queen temporarily, and give it the young brood for cell-starting. Although Mr. Doolittle may prefer grafting, I don't think he would insist that good queens can be produced only in that way. Your failure at grafting was nothing unusual. Probably it is the common thing upon first trial, no matter how well one succeeds afterward.

Yes, it is confusing to have so many different ways presented. And yet, if only one way should be given, and every one should follow that one way, there would be no chance for progress, and we would be still brimstoning our bees in the fall to take the honey. One of the beauties of bee-keeping is that there is always something new to learn, and we must stand the confusion of different teachings for the chance of picking out what may best suit our own cases. One said to me once, "I suppose you don't any more read all that comes in the bee-papers." I replied, "You couldn't be much further out of the way. My knowledge of bee-keeping has come partly from my own experience, but very much more from the experience of others, and I am still learning in both ways all the while. From a large part of all I read in the bee-papers I gain nothing, but I dare not skip any of it, for I don't know where the nuggets are, and at any minute I may strike some hint of value, even in something that comes from the rawest beginner." So don't worry about the confusion of ideas; in time you'll learn to sift out just what fits best your own case.

2. It is hardly correct to say that I recommend partly drawn foundation for cell-starting, and yet you are not the only one who has gotten that idea. I may say in parenthesis that while I tell in my book about keeping the best queen in a nucleus, that is not absolutely necessary; all you want is to get a fresh frame of comb built in the hive that contains your best queen, whether it be in a nucleus or full colony; the advantage of a nucleus being that your best queen will last longer, because laying less, and also that in a nucleus you are sure to have worker-comb built, whereas in a strong colony the bees may fill your frame with drone-comb. So give to your best queen a frame containing nothing but one or two small starters, and in a week or more you will be likely to find the frame nearly filled with worker-comb containing eggs and brood in all stages up to that which is sealed or nearly ready to seal. You would hardly call that "partly drawn foundation," would you? For it is fully drawn comb, all but the margin.

Now go to any strong colony, remove its queen, take out a frame and put in the center of the brood-nest your comb for cell-building. It is better first to trim off the margin containing only eggs, not cutting away any larvæ, and no harm if some eggs are left. You will see that in this 1 am differing from my former practice, for formerly I allowed no brood in the hive except the one choice frame. I find, however, that when I give them this frame of virgin comb, they think it so much suited to their needs, that they start few or no cells on the other combs. You may leave the frame untouched for 10 days, when you ought, with favorable weather and pasturage, to find a lot of sealed cells that can not be excelled. If, however, you prefer, you can put the cells in an upper story over an excluder, any time after they are started. You will see that I really give the bees eggs and larvæ in all stages, for generally I don't trim off all the eggs, and I have full faith in the wisdom of the bees to select what is best for their purpose. At any rate I get fine queens. While my plan may not be best for those who make a business of rearing queens for the market, I don't know of any better way for me, and I have reared many queens by the other plans.

If you give the bees only eggs, there is delay thereby. While the bees may not start cells "at once," they come so near it that there is some loss of time by giving only

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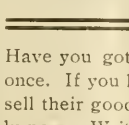

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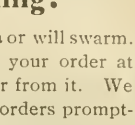

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eggs. Give eggs and brood, and the bees can take their choice.

3. I would advise the way just given.

4. One way is to put all brood in an upper story over an excluder, leaving the queen below, then a week or 10 days later set the upper story on a new stand, giving it a queen or a ripe queen-cell.

If you have further questions, don't hesitate to send them along.

Reports and Experiences

Good Prospect for Honey.

Bees are doing well now on fruit-bloom. Most of my colonies have the brood-chamber full of brood and honey. Alfalfa will bloom in 2 weeks, and if it yields honey freely, we will get along better than for several years.

DR. G. BOHRER.

Lyons, Kan., April 21.

Mild Winter—Wintered Nicely.

We have had a very cold winter, and so far as I know, bees have wintered very nicely. The next 4 or 6 weeks are usually the hardest for bees here. W. H. ROOT.

Carroll, Neb., April 1.

Abundance of Clover.

Bees have wintered well here. An abundance of clover is springing up everywhere. With good weather there will be an early and rich harvest of honey. MRS. WM. MIDDLECAMP.

Osbkosh, Wis., April 24.

White Clover Growth is Small.

Bees are doing well. Swarming is not yet over. White clover is in bloom, but owing to dry weather the growth is small.

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Loreauville, La., April 23.

Wintered Best in Several Years.

I took 183 colonies of bees out of the cellar April 10 and 11. In general they are better than they have been for several years. Some colonies seemed nearly strong enough to swarm when taken out of the cellar. F. W. HALL.

Hull, Iowa, April 13.

Wintered Too Warm.

I wintered my bees in a little house above the ground, with floor 2 feet from the ground. It was planked on all sides but the south, which was left open. When I took them out the cushion was dripping with moisture. And they had made comb below the Hill's device and above the frame. They had wintered too warm. They would have done all right out-of-doors. R. B. PERRY.

Greenfield, Tenn., April 17.

Did Well on Fruit-Bloom.

Bees did well here on fruit-bloom. The brood-chambers were about empty before the bloom, but are in good shape now. It is cold today, but I hope we may escape frost. I lost an apple crop of over 600 trees last year.

G. BOHRER, M. D.

Lyons, Kan., April 27.

Apiarian Rights of Priority.

On pages 80 and 81, and also on page 112, appears a discussion between N. P. Anderson and Dr. C. C. Miller about apiarian rights of priority. It would be hard if a farmer has 100 or more acres of land and an expert bee-keeper 3 or 4 acres, if the latter be there first why should he not have the right to prohibit the farmer from using his land for any purpose he sees fit? It does not necessarily follow that his bees are in boxes, nor that they are rotten because the man is a farmer, no more than Mr. Root's are because he is a manufacturer, or Mr. Dadant's, who is a banker. A farmer can not pasture his stock on any other man's land without his consent, and if I buy my land and pay for it, would it be right for the government to dispose of the rights of the bee-pasturage belonging to a private individual?

As for keeping rotten bees, or foul-brood bees, that is a different thing. The government has a right to step in just as much as when a farmer keeps any other diseased stock that will spread and injure his neighbor's stock; and if so many bees were kept in any locality that it was necessary to reduce them, would it not be more just to allot the number kept according to the bee-pasturage a man possesses? That a man is first in some place does not give him any right to another man's property, but no man, expert or not, should be allowed to spread foul brood or any other disease to the injury of his neighbor. And still another thing, it would be wise to prohibit any one from keeping bees that would not give them proper care, and let them swarm all summer and fill the woods up with them to the injury of all, and to no good for anybody. O. K. RICE.

Grays River, Wash., April 25.

Wintered Well — Bright Prospects.

I put 18 colonies into winter quarters, and have now 16 strong ones with plenty of honey, and all with considerable brood. Prospects look bright with me for a successful season. Last year being a poor season, I fed my bees sugar syrup in the fall, being afraid of the quality of stores they had. I lost but 2 colonies during the winter, and they were last-of-August swarms. One of my neighbors who did not take the same precaution lost 4 out of 5 colonies with dysentery. They do not take the American Bee Journal. I do.

H. S. BUCHANAN.

Indiana, Pa., April 21.

Books for Bee-Keepers

Every bee-keeper should have a bee-book besides a bee-paper. On another page will be found all the best books offered—either at a price, postpaid, or as a premium. If you can not earn them as premiums for getting new subscriptions, it will pay you well to purchase one or more of them. You will find them of great value. There are so many things in the books that are needful to know, and that of course could not be told over and over again in the bee-papers. If a bee-keeper can afford only one, it would better be the book rather than the paper. But now that the American Bee Journal is only 50 cents a year, of course, no bee-keeper, however limited his apiary may be, can afford to be without its monthly visits.

Honey as a Health-Food.—This is a 16-page honey-pamphlet intended to help increase the demand for honey. The first part of it contains a short article on "Honey as Food," written by Dr. C. C. Miller. It tells where to keep honey, how to liquefy it, etc. The last part is devoted to "Honey-Cooking Recipes" and "Remedies Using Honey." It should be widely circulated by those selling honey. The more the people are educated on the value and uses of honey, the more honey they will buy.

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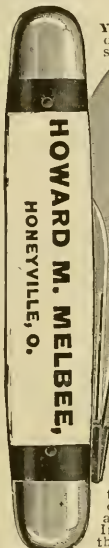


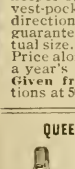
Your name and address put on one side of the handle as shown in cut, and on the other side pictures of a queen-bee, a worker, and a drone. The handle is celluloid and transparent, through which is seen your name. If you lose this knife it can be returned to you, or serves to identify you if you happen to be injured fatally, or are unconscious. Cut is exact size. Be sure to write exact name and address. Knife delivered in two weeks. Price of knife alone, postpaid, $1.25. With year's subscription, $1.50. **Free** for 5 new 50c subscriptions.

BEE-KEEPER'S GOLD-NIB FOUNTAIN PEN

A really good pen. As far as true usefulness goes it is equal to any of the higher-priced, much-advertised pens. If you pay more it is the **name** you're charged for. The Gold Nib is guaranteed 14 Karat, Iridium pointed. The holder is hard-rubber, handsomely finished. The cover fits snugly and can't slip off because it slightly wedges over the barrel at either end. This pen is non-leakable. It is very easily cleaned, the pen-point and feeder being quickly removed. The simple feeder gives a uniform supply of ink to the pen-point without dropping, blotting or spotting. Every bee-keeper ought to carry one in his vest-pocket. Comes in box with directions and filler. Each pen guaranteed. Here shown ¾ actual size.

Price alone, postpaid, $1.25. With a year's subscription, $1.50. **Given free** for 5 new subscriptions at 50 cents each.

QUEEN-CLIPPING DEVICE



The Monette Queen-Clipping Device is a fine thing for use in catching and clipping Queens' wings. 4½ inches high. It is used by many bee-keepers. Full printed directions sent with each one.

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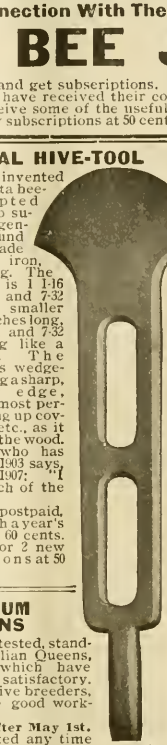
IDEAL HIVE-TOOL



A special tool invented by a Minnesota bee-keeper, adapted for prying up supers and for general work around the apiary. Made of malleable iron, 8¼ inches long. The middle part is 1 1-16 inches wide and 7-32 thick. The smaller end is 1 7-8 inches long, 1-2 inch wide, and 7-32 thick, ending like a screw-driver. The larger end is wedge-shaped having a sharp, semi-circular edge, making it almost perfect for prying up covers, supers, etc., as it does not mar the wood. Dr. Miller, who has used it since 1903 says, January 7, 1907: "I think as much of the tool as ever."

Exactly half actual size.

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These are untested, standard-bred, Italian Queens, reports of which have been highly satisfactory. They are active breeders, and produce good workers.

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AND CHEER THIS LONELY HEART?
FOR I WOULD HUG YOU ALL THE TIME,
AND WE WOULD NEVER PART

A "Teddy Bear" on good terms with everybody including the bees swarming out of the old-fashioned "skep." Size 3¼ x 5½, printed in four colors. Blank space 1¾ x 3 inches is for writing. Prices—3, postpaid, 10 cents; 10 for 25 cents. Ten with a year's subscription, 60 cents. 6 **given free** for one 50-cent subscription.

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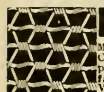

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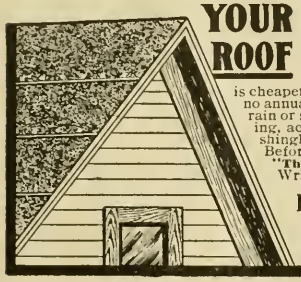

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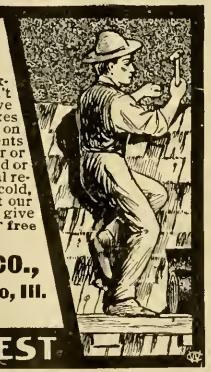

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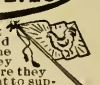

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Apiaries, Glen Cove, L. I. 105 Park Pl., N. Y. City

Honey and Beeswax

CHICAGO, April 23.—We are now entering the strawberry season, which always means a curtailment of the honey market—but the stocks of comb are not heavy of the fancy grades; other grades are difficult to sell, and there is quite a quantity of it in the hands of commission merchants. Prices on the best grades are steady, but that is not the case with anything under choice to fancy. There is quite an anxiety to dispose of both extracted and comb, in view of a good crop in the South and West now being gathered. Beeswax is steady at 28 to 30c.

R. A. BURNETT & CO.

INDIANAPOLIS, Apr. 23.—Demand for best grades of extracted honey is good, while sales on comb honey are very slow. Jobbers are well supplied, but almost none is being offered by producers. Jobbers have been paying the following prices, delivered here: No. 1 and fancy comb, 16 to 17c; extracted, white clover, 8 to 9c; amber in barrels, slow at 6 to 6½c. Beeswax, 28c cash, or 30 cents in exchange for merchandise. With the promise of a fair crop, jobbers are predicting slightly lower prices.

WALTER S. POUDER.

SAN FRANCISCO, April 1.—In reference to quotations on honey, we would say that spot stocks are so light it is not much use quoting. There are 1 or 2 cars in Southern California which are held by the apiarists at 6 1-2c, which is the only honey we know of left in the State. It will therefore be seen that it would be useless to give present market quotations since there is really no honey quotable. GUGGENHIME & CO.

LOS ANGELES, April 23.—The prospects are for a very short crop of honey this year. The prices on extracted honey are from 5 to 7 1-2c. Comb honey, 11 to 16c.

H. J. MERCER.

CINCINNATI, April 23.—The market on comb honey is very quiet, and there is hardly any demand. The price for extracted amber in barrels is 6c. We have no white clover to offer. California white sage is selling at 9 and 9 1-2c. C. H. W. WEBER.

KANSAS CITY, MO., April 23.—The supply of 1907, of both comb and extracted, is about exhausted; the demand is fair. We quote: No. 1 white comb, 24 sections, $3.00; No. 2 white and amber, 24 sections, $2.75. Extracted, white, 7 1-2c. Beeswax, 25 to 27c.

C. C. CLEMONS & COMPANY.

ZANESVILLE, OHIO, April 18.—The demand for honey continues quite light, and one or two of the smaller commission men are cutting prices. No. 1 to fancy comb honey brings, when sold to the wholesale grocer trade, about 18c. Extracted is moving very slowly. The supply of beeswax exceeds the demand. E. W. PEIRCE.

DENVER, April 24.—The local demand for comb honey continues to be light. We quote No. 1 white comb honey at $3.00 per case of 24 sections, and a good No. 2 grade at $2.75. Extracted alfalfa firm at 8 to 9c; dark strained, 6¾ to 7c. We pay 24 to 25c for clean yellow beeswax delivered here.

THE COLO. HONEY PRODUCERS' ASS'N.

TOLEDO, April 23.—The market on honey at the present writing is rather quiet. Stocks are mostly cleaned up in this section. Fancy white brings 16 to 17c in a retail way, and very little demand. No demand for other grades. Extracted white clover would bring 7 1-2 to 8c. Southern or amber honey, for cooking purposes, is worth 5 and 5 1-2c in cans or barrels. Beeswax 26 to 28c.

THE GRIGGS BROS. & NICHOLS CO.

NEW YORK, April 24.—There is absolutely nothing doing in comb honey. Some little demand for fancy white stock, but does not amount to much. Dark and off grades not wanted at all. Some of the holdings left will be carried over, therefore we cannot encourage shipments for the time being, not even on consignment. Demand fair only for extracted, with supplies large and to meet all demands. Market in general is weakening, and prices show a downward tendency. We quote: California white sage, 9c; light amber, 7 1-2 to 8c; amber, 6 1-2 to 7c. New crop is now beginning to arrive from the South, and from reports we are receiving we are inclined to believe that a good crop will be had this season. We quote nominally: Average quality at from 55 to 60c per gal.; fancy grades, 70 to 75c. Beeswax firmer at from 29 to 31c, according to quality.

HILDRETH & SEGELKEN.

PHILADELPHIA, April 24.—The call for both comb and extracted honey has fallen off considerably in the last two weeks. Quite a few job lots on the market, which parties will sell at almost any reasonable offer. This makes the prices very unsteady. We quote: Fancy white comb honey, 17 to 18c; No. 1, 15 to 16c; amber, 13 to 14c. Extracted honey, fancy white, 8 to 9c; amber, 6 to 7c. We do not handle on commission.

WM. A. SELSER.

HONEY AND BEESWAX

When consigning, buying, or selling, consult

R. A. BURNETT & CO.

199 South Water St. Chicago, Ill

Mention Bee Journal when writing.

Our New Headquarters

We have moved our business from **Redford** to **Lansing,** and are now equipped to supply you with **"Root Quality" Goods** to the very best advantage to you. We have a **Complete Stock,** and ours is the **best shipping point in the State.** Address your letters, and ship **Beeswax** to us here.

M. H. HUNT & SON,

Lansing, Michigan

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MR. BEE-KEEPER

Was 1907 a POOR YEAR for you?
It was a GOOD YEAR for users of

Dadant's Foundation

One dealer used - - -	14,000 pounds	Another dealer used - -	4,500 pounds
Another dealer used - -	7,250 "	Another dealer used - -	4,500 "
Another dealer used - -	6,000 "	Another dealer used - -	4,500 "
Another dealer used - -	3,000 pounds		

Thousands of pounds sold to the bee-keeper direct or worked up for him out of his beeswax.
The *dealer* likes *Dadant's Foundation* because the bee-keeper likes it.
The bee-keeper likes it because his *bees* like it.
The *bees* like it because it is exactly like their own comb—so *pure* and *sweet* and *clean*.
Dadant's Foundation is the Standard because it is the *best*.
Wax worked into Foundation. Send for our Supply Catalog.

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CAPONS bring the largest profits —100 per cent more than other poultry. Caponizing is easy and soon learned. Progressive poultrymen use

PILLING CAPONIZING SETS

Postpaid $2.50 per set with free instructions. The convenient, durable, ready-for-use kind. Best material. We also make *Poultry Marker 25c. Gape Worm Extractor 25c French Killing Knife 50c. Capon Book Free.*

G. P. Pilling & Son, Arch St., Philadelphia, Pa.

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6 HANDSOME CLIMBERS 20¢

Imperial Nasturtiums, 20 varieties imported seeds, novelties, Sweet Peas, 50 gay colors including Countess Spencer Hybrids, Gourds, 20 mixed ornamental sorts, Japan Morning Glory, enormous flowers, gorgeous colors, Cypress vine, scarlet and white, Cinnamon vine, pretty, hardy, cinnamon fragrance. This collection will cover 100 feet of fence or border with a showy tangle of flowers and foliage. With it we give free a package of the marvelous climber ECHINOCYSTUS LOBATA and seeds of 25 herbs used in seasoning. Send two dimes or stamps today and ask for the $45.00 Prize offer and 1908 catalog. Binghamton Seed Co., 300 Court St., Binghamton, N. Y.

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EGG MAKING

is a hen's natural work. Cut bone is the raw material she needs to make her lay an egg a day. A CROWN BONE CUTTER will prepare the food from scrap bones quickly, easily. Write for catalog—tells about the Crown. Wilson Bros., Box 618, Easton, Pa.

What's the Matter With the Scott Co.?

They have just received new goods fresh from the Lewis Factory, ready to fill your orders from the best shipping point. Send for the 1908 catalog; it's free—a postal will bring it to you. 5Atf

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1005 E. Washington St., Indianapolis, Ind.

BEE KEEPING ON THE FARM

Double Your Colonies

Honey is high—short crop last year.

The shortage of the honey crop for 1907 in the United States warrants bee-keepers to increase their colonies. About a half crop was produced, and in California, where the cheap honey comes from, only a quarter of the average crop was produced.

Get Ready Now for More Honey

Let us send you our catalog. We are manufacturers, and sell only our own make of bee-supplies. Minneapolis is the largest lumber distributing point; the Mississippi River furnishes us power, and our organization and labor conditions are the best for economical production. Send us an estimate of your requirements and let us give you prices. We have a large stock of standard bee-supplies on hand—

Dovetailed Hives, Sections, Section-Holders, Separators, Brood-Frames, Comb Foundation, Smokers, Extractors, Shipping-Cases, etc.

MINNESOTA BEE SUPPLY CO., 52 Nicollet Island, Minneapolis, Minn.

48th Year
No. 6

June, 1908

50c. a Year
5c. a Copy

AMERICAN BEE JOURNAL

Mass Agl College jun12
Library Amherst, Mass

1.—A Warm Handful.

2.—Little Lucile Showing the Queen.

3.—Grandma, 90 Years Old; Lucile, 8 Years Old, Next To Her.

4.—Gallon of Bees Poured On Her Head, Dropping In Her Lap.

(See Page 167)

American Bee Journal

THE AMERICAN BEE JOURNAL

PUBLISHED MONTHLY BY

GEORGE W. YORK & COMPANY

118 W. Jackson Blvd., Chicago, Ill.

IMPORTANT NOTICE.

THE SUBSCRIPTION PRICE of this Journal is 50 cents a year, in the United States of America, (except Chicago, where it is 75 cents), and Mexico; in Canada 60 cents; and in all other countries in the Postal Union, 25 cents a year extra for postage. Sample copy free.

THE WRAPPER-LABEL DATE indicates the end of the month to which your subscription is paid. For instance, "dec08" on your label shows that it is paid to the end of December, 1908.

SUBSCRIPTION RECEIPTS.—We do not send a receipt for money sent us to pay subscription, but change the date on your wrapper-label, which shows that the money has been received and credited.

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Goes to press the 6th of each month.

National Bee-Keepers' Association

Objects of the Association.

1st.—To promote the interests of its members.

2d.—To protect and defend its members in their lawful rights.

3d.—To enforce laws against the adulteration of honey.

Annual Membership Dues, $1.00.

General Manager and Treasurer—
N. E. FRANCE, Platteville, Wis.

☞ If more convenient, Dues may be sent to the publishers of the American Bee Journal.

"Songs of Beedom"

This is a pamphlet, 6x9 inches, containing 10 songs (words and music) written specially for bee-keepers, by Hon. Eugene Secor, Dr. C. C. Miller, and others. They are arranged for either organ or piano. The list includes the following: "Bee-Keepers' Reunion Song;" "The Bee-Keeper's Lullaby;" "The Hum of the Bees in the Apple-Bloom;" "The Humming of the Bees;" "Buckwheat Cakes and Honey;" "Dot Happy Bee-Man;" "Bee-Keepers' Convention Song;" "The Busy, Buzzing Bees:" "Spring-Time Joys;" and "Convention Song." The pamphlet is mailed for 25 cents, or sent with the American Bee Journal one year—both for only 60 cents. Send all orders to the American Bee Journal, 118 W. Jackson, Chicago, Ill.

Western Bee-Keepers We Will Show You how to save money. Send for our new catalog of the best Bee-ware made.

THE COLORADO HONEY-PRODUCERS' ASS'N, Denver, Colo.

Tennessee-Bred Queens

All from extra-select mothers, Davis' Best, and the best money can buy

3-band and Golden Italians bred 3¼ miles apart, Carniolans 5, Caucasians 7 miles away

THREE-BAND AND GOLDEN ITALIANS								
	November 1st to July 1st			July 1st to Nov. 1st			BREEDERS	
	1	6	12	1	6	12	Straight 5-band	$10.00
Untested	$1.00	$5.00	$ 9.00	$ .75	$ 4.00	$ 7.50	Select Golden	4.00
Select Untested	1.25	6.50	12.00	1.00	5.00	9.00	Select 3-band	4.00
Tested	1.75	9.00	17.00	1.50	8.00	15.00		
Select Tested	2.50	13.50	25.00	2.00	10.00	18.00	Select Caucasian	5.00
Untested	Caucasian, $1.25 each; 6 for $7.00; 12 for $12.00.							

Nuclei, without queens: 1-frame, $2.50; 2-frame $3.50; 3-frame $4.50. 1 Full Colony, 8-frame $9.00.

Select the queen wanted and add to the above prices.

NOTE

I have transferred to my son, Benj. G. Davis, my straight 5-band and Golden department, and in order to receive the promptest attention, all correspondence for these should be sent direct to him. He practically grew up in my queen yards, rears queens by my methods, has had charge of this department for years, and understands his business. No bee-disease.

JOHN M. DAVIS, Spring Hill, TENNESSEE, U. S. A.

A Standard-Bred Italian Queen-Bee

For a number of years we have been sending out to bee-keepers exceptionally fine Untested Italian Queens, purely mated, and all right in every respect. Here is what a few of those who received our Queens have to say about them:

What They Say of Our Queens

GEORGE W. YORK & CO.:—The two queens received of you some time ago are fine. They are good breeders, and the workers are showing up fine. I introduced them among black bees, and the bees are nearly yellow now, and are doing good work. A. W. SWAN.
Nemaha, Co., Kan., July 15, 1905.

✣✣✣

GEORGE W. YORK & CO.:—After importing queens for 15 years you have sent me the best. She keeps 9 Langstroth frames fully occupied to date, and, although I kept the hive well-contracted, to force them to swarm, they have never built a queen-cell, and will put up 100 pounds of honey if the flow lasts this week. CHAS. MITCHELL.
Ontario, Canada, July 22, 1905.

✣✣✣

GEORGE W. YORK & CO.:—The queen I bought of you has proven a good one, and has given me some of my best colonies. N. P. OGLESBY.
Washington Co., Va., July 22, 1905.

✣✣✣

GEORGE W. YORK & CO.:—The queen I received of you a few days ago came through O.K., and I want to say that she is a beauty. I immediately introduced her into a colony which had been queenless for 20 days. She was accepted by them, and has gone to work nicely. I am highly pleased with her and your promptness in filling my order. My father, who is an old bee-keeper, pronounced her very fine. You will hear from me again when I am in need of something in the bee-line. E. E. MCCOLM.
Marion Co., Ill., July 13.

We usually begin mailing Queens in May, and continue thereafter, on the plan of "first come first served." The price of one of our Untested Queens alone is 75 cents, or with the monthly American Bee Journal one year—both for $1. Three Queens (without Journal) would be $2.10, or 6 for $4.00. Full instructions for introducing are sent with each Queen, being printed on the underside of the address-card on the mailing-cage. You cannot do better than to get one or more of our fine Standard-Bred Queens.

Address, GEORGE W. YORK & CO., 118 W. Jackson, Chicago, Ill.

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This should be a good time to get new subscribers for the American Bee Journal. On another page we offer a number of premiums for such work. We hope that as many of our present readers as possible will help us to increase our subscription list. The more intelligent bee-keepers are, the better it will be for all interested in the business. And much of that intelligence is secured by reading. We will be pleased to send free sample copies on request. Shall we not be favored with a large increase of new subscriptions during the next 2 or 3 months?

American Bee Journal

LOOK OUT FOR LEAKS

A leaky roof on your hen-house will cost you a good many dollars in loss. You needn't expect any profits if the water drips or pours all over your poultry every time it rains or snows.

"STAR" FELT ROOFING

makes a water-tight, "just right" roof for the hen-house. Will keep your poultry dry and warm so they can work and save you all the loss the leaks cause. It's cheaper, looks better, and is better than shingles or metal, and lasts longer; made in 1, 2 and 3 ply, especially for poultry houses and coops. You lay it yourself. Write for prices and free samples today.

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Bee-Supplies. Root's Goods in Indiana.

Standard Hives with latest improvements, Danzenbaker Hives, Honey-Boxes, Comb Foundation and everything that is used in the bee-yard. Large illustrated catalog mailed free. Finest White Clover Extracted Honey for sale in any quantity desired.

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Is the Best. Not because we say so, but because the Bees prefer it to other makes.

Dittmer's Process is Dittmer's

It has built its Reputation and established its Merits, on its own Foundation and its own Name.

We make a Specialty of Working Wax into Foundation for Cash.

Write for free catalog and prices on full Line of Supplies.

GUS DITTMER CO., Augusta, Wis.

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Lewis Bee-Supplies Shipped Promptly

A small stock left of slightly damaged goods, at reduced price. Send for fire sale list, also full catalog of **new goods.** Quote us prices on Honey and Beeswax Honey in 60-lb. cans for sale. **Pure Italian Bees** in up-to-date hives **for sale.**

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Successors to YORK HONEY & BEE-SUPPLY CO. **191-193 E. Superior St., Chicago, Ill.**
Long Distance Telephone, North 1559

A FULL LINE of Bee-Keepers' Supplies. My patent Section Machine at half-price. A new queen-nursery, and queen-rearing outfit. Queens from imported Italians, Caucasians, Carniolans; and Adel queens. Send for Catalog and price-list. **CHAS. MONDENG,** 160 Newton Ave. N., Minneapolis, Minn. 3A6t

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FOR SALE—It will pay to get our special proposition. A. G. WOODMAN CO., Grand Rapids, Mich.

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If you want Bee-Supplies or Berry Boxes quick, send to McCarty. Large Stock. Beeswax wanted. You can use any first-class catalog to order from. 6Atf

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ITALIAN QUEENS—from direct imported mothers—red clover strain, $1.00. Circular. 3A6t **A. W. YATES, 3 Chapman St., Hartford, Conn.**

QUEENS

Improved superior Italians are what QUIRIN-THE-QUEEN-BREEDER furnishes. Stock is Northern bred and hardy. All wintered on summer stands and not a colony lost the past winter. Over 20 years a queen-breeder.

Prices before July 1	1	6	12
Select queens	$1 00	$5 00	$9 00
Tested queens	1 50	8 00	15 00
Select tested queens	2 00	10 00	18 00
Breeders	4 00		
Golden five-band breeders	6 00		
Two-comb nuclei, no queen	2 50	14 00	25 00
Three-comb nuclei	3 50	20 00	35 00
Full colonies on eight frames	6 00	30 00	

Add price of whatever grade queen is wanted with nucleus or colony. Bees ready about May 10th, Danzy or L. frame. Safe arrival guaranteed. Free circular and testimonials. 4atf

Quirin-the-Queen-Breeder, Bellevue, O.

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Italian and Caucasian BEES, QUEENS and NUCLEI

Choice home-bred and Imported stock. All Queens reared in full colonies.

Prices for June

One Untested Queen.....$ .90
One Tested Queen 1.10
One Select Tested Queen ..1.40
One Breeder Queen.....2.20
One C'b Nucleus (no queen) .95
One Unt'd Caucasian Queen 1.25
One Tested Caucas'n Queen 1.75

Safe arrival guaranteed. For prices on larger quantities and description of each grade of queens, send for price-list.

All queens by return mail. A few hundred pounds of **Comb Foundation.** Send for sample and price.

J. L. Strong, 4tf **200 East Logan St. Clarinda, Iowa**

Not Cheap Queens, But Queens Cheap.

Bred from the very best selected strain. Guaranteed to work any flower.

Italian Bees Work or Money Refunded

Untested Italian queens in lots as follows:
One, 75 cents; Six, $4.20; Twelve, $7.80.
Tested Italian queens in lots as follows:
One, $1.00; Six, $5.70; Twelve, $10.80.
Nuclei with untested Italian queen:
One fr., $1.75; Two fr., $2.25; Full Col, $4.75.
Nuclei with tested Italian queen:
One fr., $2.00; Two fr., $2.50; Full Col. $5.00.

The above queens are all reared from the very best selected red clover Italian queens. Orders filled by return mail. **Dealer in Bee-Keepers' Supplies.**

4Atf **W. J. Littlefield,** **R. F. D. No. 3 Little Rock, Ark.**

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ITALIAN QUEENS

By Return Mail

Warranted $1.00 each; 6 for $5.00.

Tested, $1.50. Circular Free.

D. J. Blocher, **Pearl City, Illinois.**

Honey Cases For Sale

Two cans to the case. Both cans and cases in A-1 condition. Price, 30c per case in lots of 100 cases or more. Write for prices.

Michigan White Clover Honey Co.

4A4t **29 WOODBRIDGE ST., WEST, DETROIT, MICH**

American Bee Journal

3-Frame Nuclei of Bees FOR SALE

We are now booking orders for Italian Bees—with fine Tested, Italian Queens—3-frame nuclei at $3.50 each, or $3.25 each in lots of 5: Full Colonies in 8-frame hives—$7 each, or $6 in lots of 5. The Nuclei are for delivery about May 10, and full colonies May 1, or perhaps a little earlier. All will be shipped from point 100 miles west of Chicago, and the prices quoted are f. o. b. express car there. No disease, and satisfaction guaranteed. First come, first served. Address,

GEORGE W. YORK & CO., 118 W. Jackson, Chicago

5,000 Queens

of the famous 3-banded LONG-TONGUE RED-CLOVER STRAIN OF ITALIAN BEES is what I want to sell this season.

My bees GATHER HONEY if there is any to get; ARE LITTLE inclined to swarm and sting, they please such people as the A. I. Root Co., E. F. Holtermann, W. Z. Hutchinson, Morley Pettit, etc., and if they don't please you, send in your kick.

Queens of all grades now ready.

	1	6	12
Untested queens	$1.00	$5.00	$9.00
Select untested queens	1.25	6.00	11.00
Tested queens	1.50	8.00	15.00
Select tested queens	2.00	11.00	20.00

Breeders, $5.00 to $7.00.

W. O. VICTOR, Hondo, Tex.

(Queen Specialist)

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Pharr's Goldens took first prize at 3 exhibits in Texas in 1907. We will furnish Golden, Carniolan, Caucasian, and 3-band Italian Queens, untested, $1.00 till May 15, then 75 cents; Tested, $1.25 till May 15, then $1.00; For large quantities, write. Our 3-band Breeders from W. O. Victor and Grant Anderson strains; other races from the best obtainable. "Prompt service and satisfaction," is our motto.

ADDRESS,

NEW CENTURY QUEEN-REARING CO., or JOHN W. PHARR,

3Atf Berclair, Texas

Capital City Apiary

Golden Italian Queens, 75c each.

Satisfaction guaranteed. 6A3t

WALTER S. HOSS,

1127 Blaine Ave., Indianapolis, Ind.

Moore's Strain, and Golden Italian Queens

Select Untested Queens, $1; 6 for $5; 12 for $9. Carniolan, Banat, Caucasian Queens; Select, $1.25; 6 for $6; 12 for $10. Tested, any race, $1.50; 6 for $8. Choice Breeders, $3.50. Circular free.

3a4t W. H. RAILS, Orange, Calif.

ITALIAN BEES AND QUEENS

Best of Stock, free from disease

For May delivery: Untested, 75c each; 2-frame Nucleus, with Queen, $2.50 each. Chesley Presewood, Reliance, Tenn. 3atf

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"Forty Years Among the Bees"

By Dr. C. C. Miller

One of the Best-Known Honey-Producers in all the World

THIS book of over 340 pages tells just how Dr. Miller manages his apiaries to produce the most honey, which, in turn, brings the most money. Dr. Miller has been "at it" some 45 years, and so is competent to tell others the best way to be successful with bees. In 1903 his crop of comb honey was over 18,000 pounds, and he is not located in the best honey-producing part of the United States, either—Northwestern Illinois.

The book is bound in substantial cloth, gold-lettered, and is sent postpaid for only $1.00; or with the American Bee Journal one year for $1.25. (Or send us 4 new subscriptions to the Bee Journal—with $2.00—and we will mail you the book free as a premium.) Every bee-keeper ought to have both the book and the Bee Journal, if not already possessors of them.

As Dr. Miller gets a royalty on his book—so many cents on each copy sold—every bee-keeper who buys it is thus helping a little to repay him for his effort to lead others to success through his writings on bee-culture.

As we have a good stock of these books on hand, **we can fill all orders by return mail.** This is the time of year to read up on bee-keeping. Better send us your order at once for Dr. Miller's book, and study it carefully so as to make the most of the bee-season. Address,

GEORGE W. YORK & CO., 118 W. JACKSON BLVD. CHICAGO, ILL.

TEXAS QUEENS

The famous honey producers are well in the lead. I am booking orders now for April, May and June deliveries—**Italians, Carniolans, Goldens** and **Banat Queens.**

Prices either race: Untested, 75c each; $8.00 doz. Choice Tested, $1.25 each; $12.00 doz. Choice Breeders, $3.00 each. Circular for your address. 2-If

GRANT ANDERSON, Sabinal, Texas

IF YOU WANT THE BEE-BOOK

That covers the whole Apicultural Field more completely than any other published, send $1.20 to

Prof. A. J. Cook, Claremont, Cal.,

—FOR HIS—

"BEE-KEEPER'S GUIDE"

Liberal Discounts to the Trade.

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WANTED—Work in apiary for a young man of good habits who has taken a course in bee-farming at the Mass. State Ag. College. Address, Dept. B., Amer. Bee Journal, Chicago, Ill.

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PROMPTNESS

Italian Queens by return mail. Tested, $1.00 each or $11.00 per doz. Untested, 75 cts. each or $8.50 per doz. My bees are three-banded hustlers. 5Atf

GEO. H. REA, Reynoldsville, Penn.

BEE-KEEPERS

Write us now for our Catalog and get low prices on good, honest,

BEE-KEEPERS' SUPPLIES

Our specialty is making Sections. All other goods up-to-date.

AUG. LOTZ & SON, Cadott, Wis.

10A3t Please mention the Bee Journal.

SOLID GOLDEN QUEENS

Ready for delivery April 1st. Select Untested Queens, $1 each; Tested Queens, $2; Select Tested, $3. You can get only good Queens from the South in the early spring. Book your orders NOW.

H. M. PARKER, JR.

3Atf JAMES ISLAND, S. C.

ITALIAN QUEENS, 40c

I am offering these Queens—untested—at this very low price to introduce them. Six for $2.00.

They are carefully reared from combined Doolittle and Alley stock, and are very high-class in every way. 6Atf

RALPH V. NORRIS, 7340 Stewart Ave., CHICAGO, ILL.

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HONEY California sage, pure and well ripened. Place your order now. Light amber, 60 lb. can, 6c; case, 120 lbs, 5 1-2c F. O. B. Sample 10c.

R. M. SPENCER, Nordhoff, Calif.

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(Entered as second-classmail-matter at the Chicago, Ill., Post-Office.)

Published Monthly at 50 cts. a Year, by George W. York & Co., 118 W. Jackson Blvd.

GEORGE W. YORK, Editor | CHICAGO, ILL., JUNE, 1908 | Vol. XLVIII—No. 6

Editorial Notes and Comments

Optimism of an Irish Editor

Rev. J. G. Digges of the Irish Bee Journal is nothing if not an optimist. He even finds occasion to rejoice in the invasion of foul brood, since "the necessity for combination against the great enemy has led to the formation of associations which will assuredly benefit the industry in more ways than one."

Again, at the opening of the 8th volume, as if fearful of being reproached with youthfulness, he says: "We do not regret that our years are but 7. It is better than to be venerable and stupid, with our future behind us, so to speak." And if he lives to see the semi-centennial of his beloved Journal, a thing most ardently to be desired, he will doubtless say, with the same cheerful optimism, "Better mature vigor at 50 than senile decay at 100."

The Future of Bee-Keeping

Within the past 50 years, great changes have occurred in almost everything connected with bee-keeping. Conspicuous among these changes stands the matter of specialization. Fifty years ago there were a great many bee-keepers, but no one kept many bees. Today, among the perhaps smaller number of bee-keepers, quite a goodly number are found who count their colonies by the hundred, some of them making a sole business of bee-keeping. What of the future? Is the present tendency to continue, or will the pendulum swing back in the old direction?

E. W. Alexander, in Gleanings, prophesies that "the same change will continue to go on until there will be comparatively few men engaged in the business, and these few will be located in the exceptionally good locations, keeping their thousands of colonies, and having the best of every thing connected with bee-keeping that money can buy."

Certainly that does not seem an unreasonable forecast, especially considering the present tendency in all kinds of business. Why should not the general laws of business that make specialization and centralization profitable and desirable apply to bee-keeping as well as to other callings? And then why should not some trust, some Rockefeller, gobble up the whole buisness?

There are, however, certain objections to centralization in bee-keeping that do not apply to the oil business and other kinds of business. If the few men left in the business occupy only the exceptionally good locations, the regions of moderately good and of poor bee-pasturage will be left beeless, and the nectar over much the greater area of the land will be allowed to go to waste. Surely that will be a bad thing, unless, indeed, the few exceptional locations furnish all the honey the nation ought to consume or export—a supposition hardly to be entertained.

There is another phase of the affair much more serious than the loss of nectar. We are told that the most important work of the bee is not the gathering of nectar, but fertilizing the flowers. If blossoms are to be fertilized only in specially good honey-regions, it would mean a loss of millions to the country. Surely, to avert such a disaster, it would be better to go back to the conditions of 50 years ago.

Keeping Down Grass in the Apiary

Where grass is allowed to grow in an apiary, a lawn-mower keeps it down nicely where the ground is level with no obstructions, but it can not do good work close to hives or trees. Where a flock of sheep is available, it will make short work of cutting all grass short, even in the places inaccessible to the lawn-mower. But some have reported serious damage from the sheep knocking over the hives; so it is well to keep a close watch. If sheep are let in at night, and any misplaced hives righted in the morning, the result will be good. Even horses and cattle are thus used by some for night-pasturing. Where no animals are available, a sickle and a jack-knife may serve.

Some keep down the grass at the entrance by administering common salt. Copperas or blue vitriol may also be used.

Comb-Honey Colonies Short of Stores

Quinby gave the rule that a colony that had stored in supers could be counted on to have sufficient stores for winter. It has been found since that this can not be taken as a rule applying universally. A colony that has stored in extracting-combs may be short of stores when it would have had plenty if it had stored in sections. Whether or not there is a late flow makes a difference. Size of hive makes a difference. J. E. Crane says in Gleanings:

"Stray Straws quotes Doolittle as saying that, in his locality, a colony which has stored comb honey is rarely short of stores for winter, but thinks it not true at Marengo with 8-frame hives. It is not true here, even with 10-frame or 12-frame hives. There is a great difference whether we have only clover for surplus, or clover, basswood and buckwheat. Clover usually fails in July with the hive full of brood and scant stores."

Buying Old Hives with Bee-Disease

Mr. John H. DeLong, of Pennsylvania, sends us a warning that perhaps is not necessary to the older bee-keepers, but to those just beginning, it certainly is worth heeding. It is to the effect that no one should buy old hives, nor anything else that has been used in the bee-business, unless purchasing from some one whom he knows is entirely honest and reliable. Mr. DeLong bought a lot of old hives and bees that were

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cheap (!), and with them he also got a lot of disease thrown in—all of which proved to be a very expensive investment, for he was soon entirely out of the bee-business.

Not only in buying bees, but when getting anything else, it pays to deal only with those who are honest and are known to give "value received" for the money they accept. There are so many people who will dispose of almost "any old thing," in order to get money, that it pays to be exceedingly careful when purchasing. It does not take long for foul brood or some other disease to "clean out" an apiary when once the trouble is started. Whenever any old lot of hives with bees are offered at a bargain, it is well to exercise great care lest in the end they prove very expensive. No prospective bee-keeper can afford to run the risk of getting any bee-disease started in his apiary, and certainly it would be exceedingly discouraging *to begin* with hives that already contained disease.

Age of Combs

"Our American cousins tell us a comb is good for 20 years, but if their combs last so long it is no reason why Australian combs will last as long and be serviceable. Australian bee-keepers are working under different conditions, *i. e.*, here the breeding season is almost double that in most parts of the United States, *i. e.*, the combs are used for rearing nearly double the number of broods per season. Therefore, is not the useful life of a brood-comb reduced to about one-half?"—Australasian Bee-Keeper.

That suggests the question, "Has it been found that combs in the extreme south of the United States become impaired by age sooner than those in the extreme north?" Some, however, maintain that age does not impair the usefulness of a comb. If that be true, then the number of broods reared in a season can make no difference.

Bee-Keeping in Agricultural Papers

An inquisitive correspondent sends some "suggestions to bee-keepers" taken from an excellent farm journal, and asks some questions which are referred to Dr. Miller. Some of the suggestions and Dr. Miller's responses follow:

"Get a super of honey from the hive wintered over by putting a super containing sections with full sheets of foundation, or a super containing extracting frames on the hive as soon as there is a good working force"

Is it not well to consider the matter of the harvest in deciding when to put on supers?

"When the swarm issues remove the super from the old and place it upon the new stand. Your new swarm will not leave their hive, and will be quite likely to continue working in the super."

When the super is put on the new stand, is it understood that anything besides the super is put there? If the writer means that the super is to be put over the hive on the new stand, would he not be better to leave the swarm on the old stand? And if the super is put there "when the swarm issues" would it not be well to say something about a queen-excluder to prevent the queen from entering the super?

"Arrange a windbreak to prevent loaded bees from being dashed against the hive fronts by the prevailing strong winds."

Are bees likely to be injured by being "dashed against the hive fronts?"

"Provide supports for the hives which will lift them a foot or more from the ground. Ants and insect-eating animals may give trouble if the hives are on the ground."

What kind of ants are they that do not understand the trick of climbing such supports?

"No orchard, alfalfa or cotton field should be more than 2 miles from an apiary, and a shorter distance would be of advantage."

If any of these things are found to be more than 2 miles from an apiary, what harm will they do, and how are they to be brought nearer?

"The best time to buy and transport bees is about fruit-bloom. At that time they are breeding plentifully, there are young bees hatching daily, and the loss of bees which may go astray will soon be made up by the constantly hatching brood."

Do bees always go astray when they are moved? and is their loss of no consequence when there is "constantly hatching brood?"

Large Versus Small Supers

On page 115 of the American Bee Journal occurs a paragraph that will bear some study. It refers to the production of comb-honey, and reads as follows:

"In a good season, a strong colony would fill a 40-pound super as quickly as one of 20 or 25 pounds' capacity, making a difference of 25 to 40 per cent in yield on this item alone."

The percent of difference is really greater than stated, for 40 pounds is 60 percent greater than 25 pounds, and 100 percent greater than 20 pounds.

Some will understand from this that the crop of honey from a strong colony may be doubled merely by doubling the size of the super, an understanding that would be very disappointing. To be sure, a colony sufficiently strong will fill a 40-pound super in about the same time as a 20-pound super, or for that matter in the same time as a 10-pound super; but the man with the 20-pound super will tell you that there is no law to prevent his putting on 2 supers at a time, and that the 2 will be filled just as quickly as the larger super would. He will also be very likely to tell you that sometimes, after the colony has stored the first 40 pounds, it will still store 20 pounds more, in which case good work will be done in the 20-pound super and perhaps not a section finished in the 40-pound one.

However, the beginner should not fail to get the point that when a colony in a strong flow has a force sufficient to occupy fully a 40-pound super, he will be losing honey to confine it to a single super of smaller size.

The Detroit National Convention

We want every reader of the American Bee Journal to bear in mind the meeting of the National Bee-Keepers' Association at Detroit, Mich., on October 13, 14 and 15. While it is rather early to make any definite plans about going, still it is not too early to think of it, and to begin to look forward to being present, health and circumstances permitting. In the meantime the work with the bees will go right on, and the honey crop taken care of, if it arrives. It is to be hoped that 1908 may be a banner honey year.

Death of David E. Merrill

On May 16, 1908, after a brief illness, Mr. David E. Merrill passed away. He had been connected with the W. T. Falconer Mfg. Co. for the past 20 years. We had the pleasure of meeting Mr. Merrill several years ago when calling on his firm, which is so well known to bee-keepers everywhere. He was very active in the business, and will be greatly missed.

Swarm on Arm and Hand

The picture herewith is of my brother George with queen-bee in queen-cage,

and the swarm settled on his bare arm and hand.

I was accidentally shot in the spine last summer and have been paralyzed

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from my hips down ever since. Yet I work among my bees every day in my wheel-chair, and needless to say, read the American Bee Journal regularly.

Hancock, Minn. JOHN A. LENTY.

A Large-Hive Out-Apiary

The photograph I enclose is of an apiary on my place at Cheviot-on-the-Hudson. It is run for extracted honey only. You notice that the supers are larger than the hive-bodies. They contain 14 Hoffman frames, while the hive-bodies hold 11. The frames are placed in the usual way in the hive-body, but are placed crosswise in the super on account of its large size. The hive-bodies are air-spaced and the bees are wintered just where the hive stands. The object of the extra-large size is to prevent swarming, as this is an out-apiary owned by James McNeill. The apiary contains nearly 200 colonies of Italians.

F. D. CLUM, M. D.

Cheviot, N. Y., May 20.

OUT-APIARY OF JAMES MCNEILL.

A Correction

It appears that when I attend bee-conventions I talk too fast to enable reporters to get it down correctly. On page 149 I am made to say that "we never thought we could sell honey to small grocers." All who know me are aware of the fact that we have sold honey to the retail grocery trade for over 40 years. What I spoke about was the *wholesale* grocery trade, and that explains how we could sell $600 worth to one firm, which could not have been done with "small grocers."

C. P. DADANT.

Our First-Page Pictures

Referring to the pictures on the first page, and also to some other matters, M. D. Johnson, of Keokuk Co., Iowa, writes as follows:

EDITOR AMERICAN BEE JOURNAL—

My first copy of the American Bee Journal came today (May 5), and I find it far ahead of what I expected. I consider this *one* copy well worth all it costs for the year. "Dr. Miller's Question-Box" is a great help to beginners; in fact, I also find in it many good suggestions for those older in the business.

Some years ago I had 600 colonies of bees in this locality, but other business required my attention so I dropped the bees. A year ago I bought 12 colonies, 6 of them very weak, and increased to 33 colonies besides getting 300 pounds of section honey. There was no swarming. I have never had any trouble in this respect.

I put the bees into winter quarters by packing them in sawdust after placing them in rows 6 inches apart with a 10-inch wall of saw-dust behind them and 6 inches over the top. I did not lose a colony, and they are very strong. I opened a 10-frame hive today and found brood in the outside of the outside combs, and it was full of brood, too.

You ask for apiarian pictures. I am sending some showing my little girl, Lucile, demonstrating with Caucasian bees. She used no smoker, veil, nor gloves, and didn't receive a sting. She handles them like flies. She is 8 years old, and was quite a help to me last season. It will be noticed that she used no screen cage but did her work in the open air. Some of the children shown in picture No. 3, were a little nervous but no one was stung. Last year being almost a failure in this section I am not able to say how the Caucasian bees will turn out as to honey-gathering. M. D. JOHNSON.

A Wisconsin Apiary

The picture I sent you is of my apiary of 53 colonies. It was taken about the middle of October, 1907. I am standing among my bees. The little girl is an orphan child we took. She wanted to be in the picture also, so I told her she must stand up.

The house to the right is my bee-house where I have an extracting room, work-shop, and store-room for bee-keeping necessities. The other building is the barn and stable. The other buildings are my neighbor's, ¼ mile away. The little house to the right of the little girl is the smoker-house where I keep the smoker so that there is less danger of fire.

I kept bees from 1873 to 1884, when I lost all of my 98 colonies by foul brood. Then I kept clear of bees, but did not sell nor give away any of the boxes or implements, nor did I destroy them. So it went on for 12 years. I had a farm of 160 acres to take care of. In 1890 we sold a part of the farm, and in 1896 I found a colony of bees in a hollow cedar-tree. I cut the tree down and got the bees out and made 2 colonies of them, and had a washtubful of comb and honey left. It was the forepart of August. They built up and gathered enough to winter over. The next year I got 2 swarms from them and 50 pounds of honey—that was the best my bees ever did. I wintered them in a cellar that was too cold, and lost 2 the next year. In 1898 I increased to 6 and got 325 pounds of honey. That year I sold more of my farm and bought the place where I am now.

At present I winter my bees in a house-cellar. I have a furnace in the cellar which helps to keep it dry, and that makes it much better for the bees. Otherwise the cellar would be too wet to keep bees in.

APIARY OF JOHN COCHEMS.

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Last year was a poor one for honey. My bees gathered only 600 pounds from 39 colonies, June count, so you see that is poor. I can remember a year like it, which was 1880, when I got 700 pounds from 44 colonies. JOHN COCHEMS.

Mishicot, Wis.

An Apiary in Arizona

I am sending a photograph of my apiary of 50 colonies. I came to Tucson in February, 1907, and found it to be an ideal place. The climate here is dry and cool. Hundreds of people come here every year for their health.

COMB HONEY APIARY OF J. B. DOUGLAS.

I started with 2 colonies of bees, reared my own queens, and increased to 21 colonies. This spring I bought a few colonies of bees, and transferred them into good hives, and I now (May 18) have 50 strong colonies, with one to 3 supers on all colonies. I had several weak colonies this spring so I will not get more than 100 pounds of honey per colony this year. One swarm I had this spring has stored a super of comb honey. Nearly all the honey gathered so far is water white.

I use the 4 x 5 inch section with fence, and handle my bees in up-to-date style as nearly as possible. The mesquite, catclaw, pala verda, and saguaro all produce abundance of honey.

This is practically a new location for bees. There are not many bee-keepers here. I am situated about 8 miles from the city of Tucson, Ariz., and have a good market for my honey. There are very few days in a year that the bees can not fly. I expect to build up several out-yards, and want to keep 700 colonies of bees. J. B. DOUGLAS.

Chemistry of Honey and Fats.

S. R. P. Fisher, Pharmaceutical Chemist, gives in the British Bee Journal, page 65, the following condensed statement of facts that should be understood by all bee-keepers:

"Honey belongs to a class of compounds called carbohydrates, which are all composed of the three elements, carbon, hydrogen, and oxygen, and the hydrogen and oxygen are always present in the proportion to form water. Note that these elements are not present in the form of water, but should circumstances arise they would combine together and form water. Other examples of carbohydrates are sugar, starch, glucose, dextrine, and gum.

"Now if a carbohydrate—say honey—were burnt, the hydrogen and oxygen would combine to form water, which would pass into the air as steam. The carbon would unite with the oxygen of the air, and form carbon dioxide, which is a gas. The heat given out during the combustion is caused by the oxygen uniting with the carbon and hydrogen. In like manner, when honey is carried by the blood and comes in contact with the oxygen of the air inhaled into the lungs it is converted into water, carbon dioxide, and heat. All digestible carbohydrates give the same result. The carbon dioxide is given off from the lungs in the breath, and the stuffiness of overcrowded and badly-ventilated rooms is due to the presence of this gas.

"Fats are also composed of the same three elements — carbon, hydrogen, and oxygen. They are rich in carbon, and the hydrogen is present in greater quantity than is necessary to form water with all the oxygen. Hence, when a fat is oxidized or burnt, not only the carbon, but the surplus of hydrogen is available for combination with oxygen from the air. It is this excess of hydrogen which makes fats in general such good illuminants and heat-producers.

"The value of a food depends to a large extent on the amount of energy required to digest it. Before carbohydrates can become of use to the body they have to be acted upon by the digestive juices, which convert them into a peculiar form of sugar, which in its chemical composition cannot be distinguished from honey. It is well known that the sugar in the nectar of plants has a different composition from that of honey. The process by which the bees convert the cane-sugar of nectar into honey is supposed to take place in the honey-sac, and is therefore a digestive process. It is easy, then, to see that honey is a predigested food, and without doubt many of its virtues are due to this fact."

"Mount Nebo" Apiary

The farm on which I live is outside of town. It is cultivated by my parents and brother. It is titled, "The Mount Nebo," and is a beautiful one. There were 832 acres in the original tract surveyed in 1774.

L. J. BEACHY AND SWARM OF BEES.

I teach school from 5 to 7½ months during the fall and winter, and in the summer I follow photographing and bee-keeping, which are both pleasurable and profitable.

I sell section honey at 15 cents. I am running bees on a small scale, and expect to handle about 25 colonies next summer.

The swarm in the picture was my first to cluster, May 20, 1907. I have handled

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bees ever since I was 10 years old. The first colony was in a box-hive and was given to me by my mother. I soon transferred it from the box-hive to a chaff hive, which cost $5.00. When foul brood raged through this part of the country and devastated the bee-business, I was about the only one to save a few colonies by transferring them and scalding the old hives. LEO J. BEACHY.

Grantsville, Md.

Franco-British Bee-Keepers' Congress.

This Congress of bee-keepers will be held under the presidency of Lord Avebury, at the Franco-British Exposition, Shepherd's Bush, London, England, on Thursday, June 25, 1908. The committee which has been appointed by the British Bee-Keepers' Association to organize the Congress, requested the honorary secretary of the Congress Committee, Mr. J. B. Lamb, to say that the council of the Association will be glad if any of the readers of the American Bee Journal can attend on that occasion.

The Bumble-Bee.

You better not fool with a Bumble-bee!
Ef you don't think they can sting—you'll see!
They're lazy to look at, an' kindo' go
Buzzin' an' hummin' aroun' so slow,
An' act so slouchy an' all fagged out,
Danglin' their legs as they drone about
The hollyhawks 'at they can't climb in
'Ithoutist atumble-un out agin!

Wunst I watched one climb clean 'way
In a jim'son-blossom, I did, one day,—
An' Ist grabbed it—an' nen let go—
An' "Oooh-ooh! Honey; I told ye so!"
Says the Raggedy Man; an' be ist run,
An' pulli out the singer and don't laugh none,
An' say: "They has ben folks, I guess
'At thought I wuz predjudust, more or less,—
Yit I still muntain 'at a Bumble-bee
Wears out his welcome too quick fer me!"

—JAMES WHITCOMB RILEY.

Conducted by EMMA M. WILSON, Marengo, Ill.

A North Carolina Sister.

In the North Carolina State Bulletin of Bee-Keeping, in the list of those having 50 colonies or more, Mrs. Emma Shugart stands fourth, with 194 colonies. Pretty good that only three men in the whole State can beat one of the sisters.

Wintering Bees in a Furnace Cellar.

When, a few years ago, we had a furnace put in our cellar, it was a question whether it was going to make it better or worse for the bees. It certainly was a change. Whereas in former winters we had to take measures to keep the cellar warm enough, now the problem was to keep it cool. The outside cellar door opens directly into the furnace-room, and a door from the furnace-room opens into the bee-room. Most of the time both of these doors stand wide open, making it a good deal like having the bees stand outdoors in a mild winter.

Last winter was what might be called a warm winter, and it was a question whether the bees might not suffer from being too warm. The thermometer in the bee-cellar generally stood about 50, and occasionally at 60. During the forepart of the winter the bees were very still. Toward spring, on bright days, it seemed as if too many bees were flying out through the doors. Dr. Miller was remonstrated with: "Are you not afraid the bees will come out weak if you leave the doors open that way for so many bees to fly out to their death?" He didn't seem much concerned, replying that a certain number of bees would die anyway from old age, and although letting the light in would entice out some bees, if the air were foul still more bees might die in the dark. At any rate, the bees seemed to come out as strong as usual, perhaps a little stronger. When Dr. Miller is asked, "Don't you think they would have come out still stronger if doors had oftener been closed on bright days?" he replies, "I don't know."

A Summer Honey Drink.

A good use to which to put sassafras roots is to make them into a refreshing mead. Make a tea of the roots, steeping until quite strong, strain, and bring to a boil; to this add a half pint of honey, three pints of good molasses (not corn syrup), and a tablespoonful of pure cream of tartar, stirring all well together. This should make a half gallon of the tea, and it should be put into pint bottles and sealed. To a glassful of ice water add a pinch of soda and a teaspoonful of the mead, and the result will be refreshing, effervescent drink.—The Commoner.

How We Evened Our Bees.

The ideal thing would be to have all colonies come out in the spring equal in strength, and all strong. Our bees haven't reached that point yet (May 22), some being strong, and from that down to very weak. A very weak colony seems to stand still in spring, if indeed it doesn't grow weaker. A colony strong enough to have 4 frames of brood filled seems to walk right along. So, as usual, we tried first to bring up to that point those that lacked just a little of it. The "little fellows" might wait their turns till later.

If a colony had 5 frames of brood, it could spare one; if it had 6 it could spare 2. We found the queen, so as to be sure to leave her, and then we took the 1 or 2 frames of brood, bees and all. After getting a hive more or less filled with such frames of brood and bees, we proceeded to distribute them where they would do the most good.

In distributing these frames, the chief thing to look out for was not to endanger the life of the queens in the weak colonies by giving too many strange bees. If a colony had 3 frames of brood, there was no danger from giving another, unless in some way the queen should get away from her own bees among the strange ones before these latter had become naturalized. She might be on a frame just outside of the brood-nest—not very likely, but it does sometimes happen—and if the added frame were put next the brood-nest and the queen in this way cut off from the mass of her bees, the strange bees would promptly ball her. So we generally looked to find the queen, and put the frame on the furthest side of the brood-nest from where she was. If we did not readily find her, we shook the bees off the frame outside the brood-nest, so as to make sure she would not be there.

More difficult it is to manage the very weak colonies. One colony in the Wilson apiary had brood in only 2 frames of brood, but only bees enough to have a little brood in each of 2 frames. To give to such a weakling a frame of strange bees directly from another queen would very likely do more harm than good, by endangering the queen. The queen might be caged for a day or two, but that is troublesome, especially in an out-apiary, and besides it stops the queen's laying. So we managed to give to such a colony queenless bees which would be friendly to any queen.

For some reason the colonies in the out-apiary were not so strong as in the home apiary. So after all colonies at home were up to the point where they needed no help, we took 2 hivesful (16 frames) of brood and bees from the home apiary to the out-apiary. On a Saturday we took from strong colonies at home the 16 frames, piled them in a pile where no colony stood, taking no precaution whatever to prevent the bees from returning to their own homes. If we had treated only 1 or 2 frames in that way, taking them directly from queen-right colonies, very likely the bees would have deserted, leaving chilled brood. But with as much as 2 stories the bees don't seem to feel so lonesome, and are more easily reconciled to stay where they are put. Besides, such a large body of sealed brood carries a good deal of heat in itself, and requires proportionally fewer bees to take care of it. It does not, by any means, requires 4 times as many bees to keep warm 4 frames of brood as it does to keep a single frame warm.

We piled the brood Saturday, so the bees would feel their queenlessness to be taken Monday. But the rain didn't let us get away till Wednesday (did you ever see such a rainy time as May this year?), and even then we were a little

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anxious for fear it might rain before we got home. To each of the 2 colonies that had brood only in 2 combs we gave 3 frames of brood with adhering bees. That set them in business nicely, and the bees being queenless we had no anxiety as to the queens. Besides there was the advantage that there was no danger that the bees would desert and go back to their own hives, as some of them always do when given from one colony to another in the same apiary. Still, queenless bees are not nearly so bad about returning to their homes in the same apiary as if taken directly from a queen-right colony.

Koumis with Honey.

One quart of new milk, one dessertspoonful of honey, one teaspoonful of yeast. Make the milk just warm, add to it the yeast and honey, pour into a large jug, and pass from one jug to another for three or four times. Put each pint of Koumis into a quart bottle, cork tightly and keep in a warm room for 24 hours—Chicago Record-Herald.

A Tough Time with the Bees.

DEAR MISS WILSON:—I wonder if you are wondering what has become of me. I had a tough time with my bees last summer. I had to feed them all summer until fall flowers. Then they gathered 300 pounds of surplus honey and enough to run them through winter. I put 36 colonies and 7 nuclei into the cellar last fall, and they all lived but one colony, and the colonies all looked well and strong. I wonder what has become of Mr. Hasty and Yon Yonson. I also wonder what has become of that beekeeper that offered $100 if any one would tell him the difference between a worker-bee and a laying worker-bee. I hope he has found out by this time.

I like reading the American Bee Journal very much.

CATHARINE WAINWRIGHT.

Tilton, Iowa, April 20.

You have set a good example of perseverance. Some would have said, "If the bees can not get enough for their own living, let them starve." Not only were you rewarded for your feeding by the 300 pounds of surplus last year, but present indications are that you may have a rousing crop this year. We will all be glad if, instead of 300, you get 3,000 pounds.

Two-Legged Hive-Lifter—Honey Pin-Money.

It is very well for all the bee-sisters to own a 2-legged hive-lifter, but I own one that is no good, for he is more afraid of a dear little honey-bee than he would be of a bear. You ought to see him sprint when a playful bee wishes to make his acquaintance. From experience I find my hive-lifter of little use, and will sell him very cheap!

I will not say how long I have cared for bees, but long enough so that I know I can earn my pin-money very easily. I like to take care of them. Very often I get a sting, which does not poison me any more than a mosquito-bite.

I take the American Bee Journal, and mean to make a success of bee-keeping this year, as I live in a good honey-country, and I am just a woman who is not afraid of a honey-bee. IMA.

Possibly the fact that you are not at all afraid of a honey-bee has led you to monopolize all the stings; and so your "hive-lifter" has had no chance to find out how nice the little bees are. It is to be feared that if a purchaser should appear you would "lift" the price on your "lifter."

To say that a bee-sting does not poison one more than a mosquito-bite may sound to some like a figure of speech not to be taken too literally. It is true, however, not only that for some a bee-sting is no worse than a mosquito-bite, but not nearly so bad. Very likely the first thrust of the sting gives more pain than the first bite of the mosquito, but there are old stagers in the bee-business who feel no after-effects from the sting, the pain being over in a minute, whereas the pain from the mosquito-bite gets worse and continues worse for some time.

A Sister's Experience With Bees.

Bees are in fine shape at this time. I had one swarm yesterday. The warm weather and abundant fruit-bloom in March set them to fixing for swarming. I cut out queen-cells then, and there were lots of drones. Then the weather turned cold and there was no more bloom until just now the white clover is blooming. The last few days they have been working on that. I have supers on all the hives, and some are working in them. Hives are crowded full of bees. We had a thunder-storm early this morning, and the wind has turned to the North, and it is only 60 degrees, and still cloudy.

We have had poor seasons for 3 years. I had over a thousand pounds from 30 colonies, and increased to 46. The hives were out in the sun with no shade over them, and the first thing I knew the combs had melted down in a good many extracting supers, as I use full-depth hives for supers. They fill them much better than the section-boxes. In 2 hives the bees were drowned out. I think I lost 400 or 500 pounds. The thermometer stood at 104 and 106 in the shade for several days. I took dry-goods boxes and made shades over them. I tore the boxes to pieces and then made a cover just large enough to shade the top and sides. I had no more trouble then.

Bees that had young queens went through the winter in fine shape, but I have lost 20 colonies which had old queens. The hives would be full of honey and in a short time no bees would be there. Some would be full of brood. I hope this year to have all new queens to start in the fall.

When I began bee-keeping in 1901 I did not know one bee from another, and how to handle bees was a mystery. I had no idea at all of the management of bees. But I got the American Bee Journal, and have learned about all I know from that.

Mrs. B. L. HACKWORTH.

Quincy, Kans., May 21.

Conducted by J. L. BYER, Mount Joy, Ont.

Conditions Not Bright.

I am sorry to say that conditions in this part of Ontario are not as bright as pictured in last month's American Bee Journal. We have had a very late, cold spring here, and many bee-keepers report much spring dwindling. However, clover looks good, and if the weather gets warmer there may yet be a fair crop.

Apple-bloom is not open yet (May 21). The season is very much like last spring. Willows are just in bloom, but it rains nearly all the time. However, the beeman's old standby, "Hope," has not deserted us, and we are looking for a change soon. If the season is at all favorable, indications point to a large number of Canuck bee-keepers being in attendance at the National in October.

Brood-Rearing in Winter.

On page 109 of the April number, Mr. J. L. Byer, in Canadian Beedom, very courteously criticises a statement of mine regarding the amount of brood-rearing in winter in the North. I want just as courteously to criticise the critic, and point out two or three ideas of his which my observations tell me he has got reversed.

In my experience bees in the cellar are more likely to have brood in winter than are those out-of-doors. It is possible I am mistaken in this, as my observation of indoor wintered bees is very much less than it has been of those kept out-of-doors.

Again, it is the weak, poorly wintered colonies that rear winter brood instead of strong ones. I am quite decided on this point.

As reasons why he thinks colonies usually have brood in small quantities during the winter, he cites his experience with 3 colonies, and hear-say about an indefinite number of others. My own personal observation of brood-nests at the close of winter covers at least 500, probably 1,000, colonies, and I am within bounds when I say that less than one-

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third of these had any brood or eggs at all in the early part of March, and the large majority of those that did have either eggs or brood had just started it, and those having the most brood then were almost invariably the ones which had wintered the poorest.

My observations were all made in extreme Northern Iowa, were extended over several seasons, and were almost altogether of colonies kept in first-class chaff-hives.

I am of the impression that the milder the climate bees are in the greater tendency to continue brood-rearing during the winter. I have very rarely seen a normal colony, either here in South Florida or in Cuba, entirely without brood at any time of the year.

Stuart, Fla., May 4. O. O. Poppleton.

Relative to what I said as to colonies rearing brood in the winter, I am still convinced that my conclusions are correct, for *our locality*. Like Mr. Poppleton, I have had little experience in cellar-wintering, but well-known and reliable bee-keepers have told me that quite often nearly every colony would have no brood when put on the summer stands. On the other hand, other successful winterers have stated that the reverse was more often the case in their experience. As to which condition is most desirable, is a disputed question, but the majority of cellar-winterers seem to agree that brood-rearing in the cellar is detrimental to the best interests of the colony.

Now as regards out-door wintering, while I do not claim to have the experience of Mr. Poppleton, yet from the time of being 2 years old—at which age my grandfather used afterwards to remind me of having caused him a lot of trouble by removing the entrance-blocks—I have been within the sound of the hum of about 200 colonies continually. Yet I frankly admit having but little experience in looking into brood-nests during the winter months. While the cases mentioned are few, yet in each colony spoken of, there was abundance of bees and honey, and to all appearances the bees were wintering perfectly, yet in a cold winter there was brood present in January and February. A pretty difficult matter to tell for sure just who is right in the question, as I for one, Mr. Poppleton, will give you your own way in the matter, rather than to try to prove that you are wrong by making a wholesale examination of the brood-nests during the winter months.

But as to what you say about the early part of March, I am positive that such a condition is not often found here in Ontario. A few years ago, during a warm spell in the first week of March, I was alarmed by finding a colony starved to death. The day being exceptionally warm for the time of year, a hasty examination was made of the entire yard. All that was done was to remove the sawdust cushion, turn back the quilt and gently smoke the bees down a little. The frames being a scant 7/8-inch wide, sealed honey could be seen at once, as well as sealed brood more than half way down the deep frames. I remember distinctly that in nearly every colony the brood could be seen readily. Now, it was not a case of bad wintering; on the other hand, the bees came through very strong, and although occupying brood-nest equal in capacity to 15 or 16 Langstroth frames, yet most of the colonies required supers in fruit-bloom to ward off swarming.

There is a possibility that Carniolan blood may in some measure account for so much early brood-rearing, but after making due allowance for that, I will bet a big apple that here in Ontario nearly every *strong* colony will be found to have brood in the early part of March.

Too Much Honey in Winter.

At the risk of again being "courteously criticised," I am going to differ from the statement made by another veteran, in the May issue of the American Bee-Keeper. Dr. Blanton, of Mississippi, in giving his report for 1907, says:

"I lose more bees from having too much honey in the hive, than when two-thirds full, from the fact of the bees clustering on the combs of honey and freezing. I have lost some of my largest colonies in that way. When the severe winter comes late, then the bees have consumed enough honey to have plenty of dry combs to cluster on."

Whenever we Canucks see the names of Mississippi, Louisiana, Florida, and other Southern States, we naturally think of balmy days and semi-tropical vegetation. Yet it appears that down in Mississippi, it *freezes* harder than in Canada, as I wish to assure Dr. Blanton that bees will not *freeze* here even though they have not enough empty combs for all to cluster on. How do I know? Why, by actual results of wintering on sealed combs of honey; and if my evidence is doubted, ask Mr. McEvoy and he will tell you.

When movable frames came into use, many formerly-held views were easily disproved, and as it is just as easy to prove this wintering question under discussion, I have often been mystified as to why well-known authorities in bee-keeping will *theorize* to show that it is impossible for bees to winter, unless there is sufficient empty comb to cluster on, when *actual practise* will disprove their statements.

Co-operation Among Bee-Keepers.

Frequently of late we have been giving the views of different Ontario bee-keepers on the subject of co-operation. At the last annual meeting of the Ontario Association a committee was appointed to look into the matter and report at the next meeting. The following circular letter sent to members of the Association is self-explanatory:

ONTARIO DEPARTMENT OF AGRICULTURE.

FRUIT AND HONEY BRANCH.

The meeting of the Co-operative Committee of the Ontario Bee-Keepers' Association was held in my office on April 21st, and a full discussion took place as to what could be done the present year along these lines. It was felt by all of the members that at first no elaborate scheme could be undertaken. The question of suitable inspection of honey was one of importance, and it was felt that to work up a trade in large quantities for such markets as the Northwest, it would be necessary to have the goods thoroughly inspected and guaranteed before shipment.

Out-Apiary of J. L. Byer, in Winter.

It was finally decided to ask the Honey Exchange Committee to get from the bee-keepers in the Province some idea of the amount of surplus honey which they would have for sale at the price fixed by this Committee. Such a list would be printed and distributed by the Secretary of the Association to all inquiring parties as well as to the large wholesale houses throughout the Provinces and in the West. This would tend to bring together the honey-producer and the wholesale buyer, and would probably result in more satisfactory and prompter sales than have taken place in the past.

It was felt that some of our reliable and well-known bee-keepers in the various sections could easily undertake the inspection at small cost. By keeping a register of the quantities of honey for sale and the grades of the same, the secretary would be in a position in many cases to help in the sale of the goods.

As the Department is exhibiting Ontario honey in the West this summer, there will doubtless be inquiries from that part of the country for honey in quantities

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during the present season. The local societies should do all in their power to help in this matter by, if necessary, combining their season's surplus product so that the Secretary of the Provincial Association could inform intending purchasers where a carload lot or more could be procured from one neighborhood.

By working the present season in this small way it was felt that perhaps it would develop into something more elaborate during the coming years, as has been the case in the co-operative handling and selling of fruit.

P. W. HODGETTS, *Secretary.*

May 6, 1908.

More Government Aid for the Bee Industry

Much as the busy bee has been extolled in poetry, prose and proverbial lore, it is a remarkable fact that the bee-keeping industry has seldom received from Governmental offices the encouragement and support which its own importance and its immense incidental benefits to other phases of agriculture unquestionably warrant. Perhaps this is partly attributable to the limited numbers and unaggressive attitude of bee-keepers, but more particularly, we surmise, to the woeful lack of general knowledge concerning the great value of bees in pollenizing fruit, clover and buckwheat blossoms. Indeed, bee-keepers are frequently anathematized by neighbors who really owe them a deep debt of gratitude for many an extra barrel of fruit or bushel of alsike seed. That orchards yield best, other conditions being equal, in the neighborhood of apiaries, is a matter of repeated comment among observant horticulturists. And yet, scores and hundreds of orchardists and farmers deny this, and berate the innocent apiarist, simply because they are uninformed regarding natural history, and too narrow and prejudiced to believe the statements of experts who have investigated the subject. There is great need for educational work in spreading knowledge of the value of bees to agriculture, as well as assisting bee-keepers by freely-endowed investigation and experiment in the various phases and difficulties of modern apiary practice.

The value of the bees as an object-lesson for nature study, and of honey as a food, commends it. It displaces no other stock, withholds not a foot of ground from cultivation, outside the limited quarters of the apiary, and abstracts nothing from the fertility of the soil. France, which utilizes every resource, encourages bee-keeping liberally. In Northern Ontario, honey is one of the first crops a farmer can take. Canadian honey has won high laurels wherever exhibited. At the Centennial Exhibition, in 1876, Ontario honey took first prize. At the World's Columbian Exhibition in 1893, Ontario Province received 17 awards, and the whole United States 28. At the Pan-American Exhibition in 1901, Ontario, with 21 exhibitors, secured the only gold medal, and 33 diplomas of honorable mention. Medals of distinction have also been won at St. Louis, Mo., and Paris, France.

These considerations emphasize the propriety of a couple of recent resolutions passed by organizations of apiarists. The National Bee-Keepers' Association of the United States, at their last annual meeting at Harrisburgh, Pa., recorded a strong expresson of opinion that all Federal, State and Provincial Departments of Agriculture give bee-keeping encouragement and the same help that other branches of agriculture receive; that complaint had been made that incompetent men had frequently been appointed in the position of lecturers on this subject.

At a recent convention of the Bee-Keepers' Association of Ontario, a resolution was passed unanimously asking that exhibits be made at Toronto, London, Ottawa and other exhibitions, giving demonstrations in methods of producing honey, the management of bees, showing forth their natural history, and instructing the public in judging and caring for honey; also that the Dominion and Provincial Department of Agriculture be asked to give bee-keeping the help and encouragement that other lines of agriculture are receiving.

We take it that the spirit of these resolutions does not call for monetary appropriation to the same extent as accorded, say, the dairying industry, for instance, but there certainly is ground for expecting greatly-increased Departmental attention and aid to bee-keeping, and there is no reason to believe that, so far as Hon. Nelson Monteith, Ontario's Minister of Agriculture, is concerned this will be forthcoming. In this connection, it may not be amiss to note that Dr. Robertson has intimated his intention of instituting a strong apiary department in the Macdonald College at Ste. Anne de Bellevue, Que., and the O. A. C. must not lag behind. It is now a moot question, whether it would not be advisable to establisb, either at Jordan Harbor or Guelph (probably at both, with provision for interchange of colonies and demonstration facilities), a strong, well-equipped experimental and demonstration apiary department, in charge of an expert apiarist employed the year round. At present, there is but a fall-term course at the O. A. C. by a non-resident lecturer, and it is not conducted in a way to exalt the bee-keepers, art or occupation in the mind of the average student. Development of this department is clearly required, and any reasonable expenditure will be well repaid.—Farmer's Advocate.

The Farmer's Advocate is the leading agricultural paper of Canada, and the foregoing article is a fair criterion as to how the better-informed agriculturists regard the bee-keeping industry.

Regarding Government aid, no question but that apiculture, as compared with other kindred pursuits, has been greatly neglected, but as is pointed out in the article referred to, the signs are hopeful for more attention in the future.

Conducted by LOUIS H. SCHOLL, New Braunfels, Tex.

The Texas State Convention.

The 8th annual meeting of the Texas Bee-Keepers' Association takes place at the Agricultural and Mechanical College, College Station, next month, during the meeting of the Texas Farmers' Congress. The exact dates are not yet named, and will be made known as soon as obtained.

There will be a more interesting convention of bee-keepers this year than heretofore, as many topics of special interest are to be discussed, and many new features will be brought out at this convention. There are several important subjects that will be brought up before the convention this year that the bee-keepers of Texas are interested in, so that the attendance should be good.

A new feature will be the demonstration work of real, practical value, in place of the long papers that have heretofore been the main feature of the program. Those on the program this year will use this instead of reading long papers.

Besides these things the social feature of a bee-keepers' gathering should not be forgotten, and for information as to how to "rub up" with us, how to get there, and any other questions, just address myself, Secretary-Treasurer of the Association, and I shall be glad to inform you.

The program follows:

Call to order. Prayer by a member. President's annual address. Reception of new members. General business.

Selection of Location of Apiary—W.C. Conrads and W. E. Crandell.

Preparation of Apiary for the Honey-Flow—D. C. Milam and Willie Atchley.

Foul Brood in Texas, and What to do with it—Louis H. Scholl.

Prevention of Swarming and Increase—F. L. Aten.

Best Methods of Queen-Rearing, and Success with Baby Nuclei—W. H. Laws and J. W. Pharr.

Production of Extracted Honey—T. P. Robinson and Otto Sueltenfuss.

Marketing Honey—Udo Toepperwein.

Is It Profitable to Have Apiaries in Another State?—W. O. Victor.

Comparative Profit in Production of Extracted, Bulk Comb and Section Honey—A. H. Knolle and Hugo Sattler.

Bee-Keepers' Exhibits at Fairs—Dr. C. S. Phillips and J. M. Hagood.

Question-Box to be taken up at each session.

The Value of Hives made of Texas Pine—W. H. White.

Prof. Ernest Scholl's Report on the College Apiary.

Report of Committee on awards of premiums, etc.

Election of officers, and completion of all business that should come before the Association.

F. L. ATEN, *Committee on Program.*

LATER.—Since writing the foregoing, I have learned that the meeting of the Farmer's Congress will be held July 8, 9 and 10.

There will be exhibits of bee-keepers' products and other things, as usual, for which special premiums will be arranged. All who have anything to send are asked to do so, and thus help make the exhibit a success. Write for any further information, if desired, to me at New Braunfels.

LOUIS H. SCHOLL.

Distribute Your Apiaries.

More than ever have I found the great difference in localities since I have as many as 16 apiaries now. These are located in half a dozen entirely different localities, where the flora and the sources of honey are very different. And just so different are the conditions of the bees in these localities. Some of the yards are where very little honey was obtained last year, so much so that the average bee-keeper might have moved

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them into the territory where the bees did wonderfully well last season. This I did not do since former experience had taught me that those good locations might be poor ones the year following, and vice versa with the poor ones. This has come about many times, and again this year.

Now if I had all my bees in one kind of location, is it not plain enough to see that I would have some total failures? But by having my apiaries widely distributed I catch some honey somewhere, although some of my yards may not gather anything. It is impossible to know where the honey yield will be sure here, so I do not rely on the same kind of locations for all my bees. Local rains and other conditions play a great part in the honey-yielding of the flora we rely upon, and a rain several miles away may assure a crop there while the bees starve at home.

Since I am not so favorably located as some are who can always count on a crop, it becomes necessary for me to rely upon some of the "tricks of the trade" to make up for it. Thus I have some apiaries 200 miles from home, and others all the distances between. When it is practicable to do so, migratory bee-keeping is practised, moving some of the yards to the more favorable localities to catch the yield there for the time. For these reasons my apiaries are not very large, but there are more of them, and widely distributed.

Honey in Cookies.

About the first of February, this year, I decided to lay in my supply of sugar to feed to the bees to tide them over the dearths that visit me every spring after the first honey-bearing flowers disappear. I was desirous of buying this sugar by wholesale as I would need probably a ton, having sometimes to feed my bees practically all that they get to eat for two months. I was constantly on the lookout for a sugar-drummer when in town, and accosted every fellow with a hand-bag. One day I hailed a fellow, whom I had all reason to believe was a sugar-man, but who informed me that he was a drummer for the National Biscuit Co. We promptly became intimate, and jumped up a lively conversation about honey, bees, and bakery. The gentleman offered to buy honey for his firm from me, if I had any to sell of the genuine, pure stuff. I had none to offer just then. I made inquiry as to the principal use to which they put honey and was informed that they used it in cookies and cakes. I asked why not use sugar, and was informed that cane-sugar cakes and cookies were inferior, both in quality and in keeping power to the article produced with honey.

He said, "Let me show you something;" whereupon he opened his case of cakes and cookies, and explained the difference in cane-sugar-made and honey-made cakes. I was told that the honey-made article was of better flavor, and, best of all, it would keep many times longer than the sugar-made article. At this he had me feel his cakes, which had a soft, velvety, elastic touch to the hand, and a pleasant aroma to smell. I was shown that any impression made on the honey-cookies would very promptly return to its former shape. I was shown that the cakes made of cane-sugar were hard, with no velvety feeling or elasticity about them.

The gentleman informed me that the honey-made cakes were as good as when baked, long after the cane-made cakes were ruined with age. I was informed that there was no sweet that would take the place of honey in this company's cookies and cakes; that it uses many carloads of honey annually.

T. P. Robinson.

Bartlett, Tex.

When Does Mesquite Bloom?

It has been stated that the mesquite trees bloom after each good rain through the spring and summer months. This is not in accordance with my observations. The mesquite blooms here twice a year, as a rule. Some years it doesn't bloom at all. It usually blooms in April and again in June, and we think the dryer the year the surer it is to bloom and yield honey. I have many times seen the mesquite budded full, and just in the act of blooming, and a heavy rainfall would blast all—the buds would fall off, and no more buds would start until it again became very dry. No, sir, the mesquite doesn't bloom after each good rain in this locality.

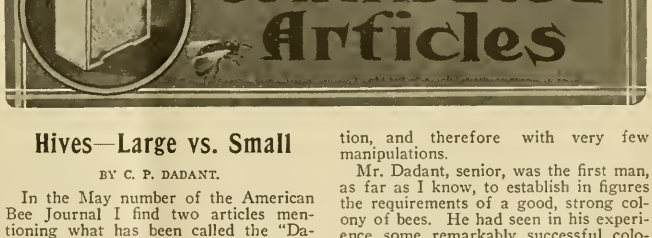
Rescue, Tex. L. B. Smith.

The mesquite tree, or screw-bean (Prosopis juliflora) which covers thousands of miles of territory of the Southwest, and is the main honey-producing source of this section, is peculiar in some respects. One of these is related by Mr. Smith: that of a heavy rain causing all the buds to drop when the bee-keeper has been preparing for a heavy honey-flow. I have seen just such disappointment—this spring being among the seasons when such happened.

Trees of this kind need lots of moisture the preceding year to lay up a supply of "food" for the following one, when they will live from their sap throughout the season, even through the dryest of years. Therefore late summer and fall rains, or a wet fall and winter, predict for us a good crop of honey from mesquite, no matter whether we have a dry year or not. Some of my best honey crops were made when all other people were complaining of hard times on account of a dry year, and bad crops of the farms. Last fall was very favorable for the kind of prospects that make the bee-keepers smile. But "there's many a slip twixt cup and lip," and so it was with us in that the spring was too wet—too much rain, hence mesquite grew too much into new wood instead of setting buds, and the buds that did appear soon dropped off on account of the rains.

As the blooming periods are two, the first in April and a second in June, or early July, we are hoping for dry weather and a heavy blooming period then, since the trees have had a long rest period, and in addition they have made an excellent growth of new wood from which the healthiest buds should spring.

So a favorable fall and a dry season the following year are our favorites; wet seasons bring us disappointments if we depend upon the mesquite for our honey crop.



Hives—Large vs. Small

BY C. P. DADANT.

In the May number of the American Bee Journal I find two articles mentioning what has been called the "Dadant system," the one to praise it, the other to criticise it with a sweeping condemnation of all that is not according to some new doctrines. Allow me to say a few things concerning the questions raised.

The Dadant system, as mentioned by Mr. Getaz, consists mainly in using large brood-chambers which give sufficient room for all the needs of the colony. Strong colonies are thus formed, the best queens are given a chance to develop their fertility, and the entire management is simplified, by the possibility of securing more bees, more stores for winter, less swarming, and maintaining the apiary at the number of colonies desired without much fluctuation, and therefore with very few manipulations.

Mr. Dadant, senior, was the first man, as far as I know, to establish in figures the requirements of a good, strong colony of bees. He had seen in his experience some remarkably successful colonies of bees in very large box-hives and had studied the causes of their fine condition. This led him to enquire into what was needed to accommodate the most prolific queens and their bees with space for brood-rearing, storing pollen and a winter supply of honey that would prove adequate in ordinary circumstances, with very powerful colonies.

In the use of the different frames he finally settled on the Quinby size as the most satisfactory, and ascertained that 9 frames of that size would give about the required room for the most prolific queens. This was equal to between 12 and 13 Langstroth frames, 14 Gallup, 21 Heddon, and would call for 16 Danzenbaker frames, under the same rules.

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In Europe, in the French-speaking countries, the comparison was made with the Burki-Jecker hive (Swiss) which under the same reckoning required at least 12 frames, and the Layens hive which required 10, to get each hive to the adequate size in the brood-chamber for the accommodation of the most prolific queens. Not only have these figures been almost universally accepted as correct, but many of those who used the 8-frame Langstroth hive went farther and doubled the size of their brood-chamber by adding another body, making the room altogether too large. They have now in some places changed to the 2-story Danzenbaker 10-frame hive, which though much nearer correct than the double-story Langstroth, is still a little too large when used in double stories, to accommodate queens and not get too much surplus honey in the brood-combs.

The comparison made in our apiaries between different systems was all carried upon a large scale. We had two apiaries in the seventies devoted to 10-frame Langstroth hives, which were positively recognized as too small in single stories, the other 4 apiaries run by us under the same management with large hives always giving better results, even when the location was changed from one place to another. Meanwhile some apiarists were proclaiming the 8-frame Langstroth hive as still too large for them, and some were talking of reducing it to 6 frames. They had never found out what queens could do, and they underestimated them.

There are still many people who believe a small hive best, because they look through the wrong end of the telescope. For instance, we have neighbors who use 8-frame Langstroth hives and have early swarms every year. Their hives become overcrowded by May 15th, about the time of fruit-bloom; the bees cast small swarms, and the owner rejoices in imagining that his colonies are considerably better than ours, since we have very few swarms, and no early ones at all. The fact is that our bees are still comfortable, and the queens still have room to lay and increase the strength of the colony when their bees are "at the end of the string" and must either defer breeding, or swarm. Result: many small swarms and little honey. When the harvest comes, our powerful colonies leave everything else in the shade, and the same men who have had such early swarms wonder how we could harvest so much honey. It is very simple. The queens have not been detained in their laying, the bees have not suffered for want of space, the colony is in the very best condition, and if supplied with ample supers in time brings the very best results. A large brood-chamber (not too large) and plenty of stores is the cause, other conditions being equal, of course.

The above gives the results of years of experience with brood-chambers considered too large by many practical men who condemned those large hives without having ever tried them.

Mr. J. E. Hand, on page 144, intimates that I do not understand the methods of today, and flatly calls our methods "slow-going," and the man who practices them "a back number." If Mr. Hand could be with us a little while he would find that we do not practice "handling, brushing and interchanging" as much as he thinks, and that the speed of manipulations of which he boasts may be on our side rather than on his. Last year, in a discussion brought about in Gleanings, when Messrs. Hand and Chambers attacked my methods, I spoke of their not having tried the methods I advocate. To this Mr. Chambers replied that he had near him an apiary of Dadant hives which proved very inferior as breeding hives. A later investigation revealed the fact that those were not Dadant hives at all, but ordinary Tri-State 10-frame Langstroth hives ordered from us by the party in question. The 10-frame Langstroth hive is the most spread of all the hives in America; but I repeat it, that hive is too small in my estimation for good production. It is very clear to me that Mr. Danzenbaker realized this when he invented the hive which bears his name, for he has made a hive which is more than ample when used in 2 stories.

Mr. Hand is not the first man to call "back numbers" those who do not accept of insufficiently tried methods. When the "reversing hive" craze struck the United States some 25 or 30 years ago, every other man had a pet hive and theory on reversing, and the results which were extraordinary in some instances made everybody wonder as to the outcome.

An inventor of "invertible hives" sent his foreman to us to explain to us what could be obtained by inverting with his method, and forcing the bees to transport their honey from the bottom of the brood-chamber—where inverting placed it—to the super. It increased their activity, made them fill the combs more fully with brood, secured the best honey, etc. And it really did. This was all true. But in the long run all this was found not practical, and more trouble than profit, and not one man in a thousand today practices inversion, although the inversion people called us "back numbers" then.

I venture to predict that unless Mr. Hand, or some other man, manages in a way to change entirely the natural instinct of the bees in regard to keeping more than one queen in a hive; unless they manage to secure a method by which they may keep 2 or more queens in the hive during the entire year, very few people will accept this method of dividing colonies in the fall to reunite them in the spring, and the new system which goes contrary to the natural instinct of the insect.

I do not wish, however, to be understood as attempting to dissuade apiarists from experimenting on those new methods. On the contrary, there can be nothing but profit in experiments, but I believe in going slowly in matters that conflict with the natural instincts of the bees.

"Keep more bees!" Yes, keep more bees and do not waste so much time in manipulations. We handle neither hive-bodies nor frames half as much as those who want short cuts in bee-culture and call us "back numbers." But when we do have to handle brood-frames we have only 9 to handle instead of 20, while at the same time we supply our bees with a spacious brood-chamber.

Our hives are not carried about and lifted every few days, therefore we have no need for a lifting device or derrick, such as I have seen described in two or three places as one of the implements of the new system of "short cuts."

Hamilton, Ill.

Apiarian Rights of Priority

BY C. A. WORTH.

In answer to Dr. Miller's article on the question whether it would be practical and also legitimate to have protection from the Government, for the right of apiarian locations, I will say that I cannot see where there would be any justice in such legislation, except where there are large forest reserves or other government territory. I cannot understand how the Doctor expects the Government to protect him for a small amount of taxes, and secure him in the privilege and rights to keep bees that will gather nectar from the fields and premises of other parties. In my opinion, the proposition is just this:

Two farmers live side by side. A has a fine, large pasturage of 50 or 60 acres, but no stock of any kind to consume the grass; therefore, B must be protected because he pays a tax on his cattle, and is entitled to let his cattle run on A's pasturage, and still B is not benefited, except in getting rid of the grass, and by what fertilizer is left behind the stock. That is about all the bee-keeper has to propose to his neighbor when the neighbor gets "up in the air" over the bee-keeper's bees bothering his horses at the watering-tank—they are fertilizers of the fruit. (Of course I mean the bees).

But as I read the Doctor's side of the question, I see where he has occasion to be alarmed on account of the promiscuous spreading of foul brood and other diseases of the bees, but to overcome that, I suggest that we all work toward the end of securing protection of the State in guarding against the spread of bee-diseases. I would suggest that we see that proper laws are enacted, and then do our utmost to secure their enforcement. A law with a sufficient penalty attached will stop the spreading of the disease, as far as the moving of farmers with 20 or 40 colonies with foul brood is concerned. Make it $10 fine for any one to move bees more than 5 miles, or whatever is thought to be sufficient, without first having the bees examined by the bee-inspector of the county or district. In case the bees are found to be diseased, make it $250 to move them, even into a locality known to have the disease. If this kind of restrictions be placed upon the possessors of bees, there will soon cease the spreading of foul brood.

The Doctor takes his stand with the early settlers of the United States. Protection of the white man was accorded on every hand. He was protected for taking without even having to pay for the protection, except in the way the poor, ignorant, uncivilized Indians retaliated by massacres, etc. I suppose there is not an American but who is proud of his nativity. Still the un-Christian manner in which the people

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of the early part of the eighteenth century used in securing the land that is now considered the Land of the Free, should make all Americans blush with shame. How about it, Doctor, are you willing to give up your home which without any question was in possession of the Indians years ago? Seems as if they had some "priority rights." Still we drive them farther and farther away from their true state of living. I have talked to Indians that said, "Me never had backache till me try to live like white man. Me rather live in teepee and have ponies and hunt than study white man's books what no good to me after white man quit feeding me, like brother."

Suppose we ask for legislation in regard to the keeping of enough bees for one to work profitably to himself, by his own labor. Why should one be entitled to reap the benefits of the nectar off of other people's pasturage when the labor is done by some one else? If we will restrict the number of colonies that any one can keep, and run with his own labor, I assure you there will be very few locations overstocked.

In conclusion I will say that the bee-keeper that has not energy enough to prevent the encroachment of some fellow that has the idea that there are tons of honey going to waste in a locality that the bee-keeper already has well stocked, and feels like there is not room for some one else, either by gentle persuasion or a pecuniary consideration he should prevent the encroachment. There is no danger from the practical bee-keeper setting an apiary beside you if he realizes that there are bees enough already to gather the yield of nectar in that locality.

College View, Neb.

Locating an Apiary—Questions Answered

BY G. M. DOOLITTLE.

I am requested to give an article in the American Bee Journal on locating an apiary, several questions being asked. As they are quite to the point, I will take them up one by one, and give my views regarding them. The first is,

"In what position should hives be placed so that comb-building can be done to the best advantage? I expect to use only starters in the frames and sections, as I have not the necessary capital to buy comb foundation just at present."

That depends upon whether you have the sections run with the frames in the brood-chamber, or crosswise. In either event, the hive should stand level from side to side, else the combs which are built from the starters in the frames will not be true in the frames, as the bees always build their comb perpendicularly. There is little about bee-keeping that is so exasperating as having the combs built untrue in the frames. If starters are put in the center of the top-bars of the frames, and the hives stand perfectly level from side to side, you should have little trouble in having the combs built down to the bottom of the frames so they will be "true as boards."

Now, if the sections run the same way as the frames, you will get just as good results in comb-building if the rear of the hive is raised 2 or 3 inches higher than the front or entrance end of the hive, and as this does not interfere with the comb-building, it has the advantage of shedding all water from the entrance to the hive, and helps the bees in removing any foreign substance, such as dead bees, dirt, etc. But, if the sections run crosswise of the frames, as quite a few prefer they should (because such position allows the bees to pass up into the sections from any space between the frames below) then the hive must set level both ways, else the combs built in the sections will not be true in them, the lower end often being attached to the separators, which makes bad work when the sections are gotten ready for market, as in separating the sections from the separators the comb in the sections will be broken more or less, on account of the brace-comb attached to the separator being stronger than the comb in the section. This will cause leakage of honey, and a defacement of the comb, which will make your No. 1 or fancy honey go down into a lower grade, providing it does not spoil it for market altogether.

In case the hive must be level while the sections are on, then it is well to make the hive stand perfectly level both ways, and at all times when the sections are not on, raise the rear of the hive two inches by putting a half brick or a piece of 2 x 4 scantling between the bottom-board to the hive and the hive-stand. This will throw the water out and away from the entrance, and help the bees about dragging out the dead bees and dirt during the fall, winter and spring, just when it is needed most; for during the summer months there is little trouble from any of these sources.

"What distance should the hives stand from the ground?" is the next question. Forty years ago, when I first commenced to keep bees, everybody thought that the hives must be up from 12 to 18 inches from the ground, but it was found that much loss resulted during cool days in early spring from many bees which were partially benumbed with the cold coming a little short of the entrance and dropping in the shade under the hives, where they would soon become so chilled that they never gained the hive till they succumbed to the cold. From this and other reasons, all of our practical bee-keepers of today make the hive-stands not more than from 2 to 4 inches high, running an "alighting-board" from the entrance of the hive to the ground, so that any bee which is too chilled or too heavily loaded to fly again after once dropping on this board, can "travel" into the hive on foot. This alighting-board is also a great help to the bees in a windy day, for if they are able to reach it during a little lull from the wind, they can hang on and crawl into the hive, while without this, many efforts must be made, till often the bee is worn out before an entrance to the hive can be gained. The objections to the low stands and this alighting-board, are that toads will sit at the entrance to the hive evenings and catch the heavily-laden, belated bees as they return home; and the ants will annoy them, but I don't consider that either of these is anywhere nearly equal the first in real damage to the apiarist.

The next question is, "How near should the hives stand to each other?"

When I was a boy I do not remember seeing any bee-hives but what were set on boards or planks, about as many as could be crowded together. I well remember my father having trouble with colonies running together, because the hives were only 2 or 3 inches apart on these planks, with each hive standing on 4 ½-inch blocks, one at each of the 4 corners. I now suppose that where they did this, it was because of some of the colonies becoming queenless, when the queenless bees would join those having queens, for this running together almost always happened two or three weeks after the colonies had swarmed. But today things are very different, for we find all practical apiarists giving each colony a separate stand, and, as a rule, these stands are from 4 to 10 feet apart.

My apiaries are laid out on the hexagon plan, the hives being 10 feet apart in the rows, from center to center, and the rows 10 feet apart. I know that very many place them closer, but I think where the ground can be had without too much expense, the saving of queens when going out to be fertilized, and the less mixing of bees, more than pays for all of the extra travel which this distance makes.

To get the hives arranged in the hexagonal form, procure a line of the desired length, and near one end tie a white piece of yarn. Five feet from this tie a piece of scarlet yarn, and then a white one 5 feet from the scarlet, and so on till you have red and white yarn alternating at 5 feet from each other the whole length you wish your apiary. Now stretch the line where you want the first row of hives, and place a stand at every white thread. Then move the line ahead 10 feet and place the stands at the red threads. Then move 10 feet again, placing the stands at the white, and so on till you get as many stands as you wish in your apiary. When you get it all laid out, and a hive on each stand, you will see that you can go through the apiary at almost any angle, and each angle gives a straight path, while for convenience and beautiful appearance you will have something which is superior to anything ever before thought of.

"Toward what point of the compass should the entrances of the hive face?" is the last question.

This is optional, providing they do not face north of an east and west direction. I have mine face south, but many think southeast should be the direction, for then the morning sun will entice the bees out to gathering stores earlier in the day than they otherwise would do. However, after experimenting quite largely, I see little difference in favor of any southerly direction; but the facing of hives to the north is objectionable, as it nearly precludes the flight of the bees during winter, and allows the cold north winds to blow in at the hive-entrance, which is by no means helpful to the bees, especially during the spring, when it is necessary to economize all the heat possible for early brood-rearing.

Borodino, N. Y.

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Practical and Potential Pointers

BY PROF. A. J. COOK.

Our bees are insects, and any thing that pertains to insects, especially if it touches our interests, or is likely to affect the prosperity of ourselves or others of our people, is sure to attract the attention and claim the interest of every intelligent bee-keeper.

Annoying Ants.

Our friends of the Crescent City, and the immediate surroundings, are seriously plagued by the introduction of an ant from the Argentine Republic of South America. At present, I think this unwelcome immigrant is confined to the State of Louisiana. This Argentine or New Orleans Ant is known to Science as *Iridomyrmex humilis*. As a household pest it is said to be terriffic. It attacks almost every food article, and its bite is so severe that it is thought that it might prove fatal to infants, if alone when attacked. It also distributes other pests and attacks directly our orchard and garden plants. It is of the utmost importance that this pest be not introduced into other sections of our country, or that it be allowed to spread to other parts of the State that is afflicted by its pestiferous presence.

Quarantine Laws.

The above case is but one of hundreds where our prosperity and comfort have been alarmingly interfered with by the introduction of insect pests. In truth, very many of our most destructive insects have come from other countries. Every State should have carefully framed quarantine laws that such insects should be kept from coming to us. California has such laws, and they are executed by able, cautious men to the great advantage of our people. Could we have had these laws earlier it woud saved to our people millions of dollars. But good and effective as our laws are, they are not enough. We need general or national laws that would reach beyond State lines. A wisely framed National quarantine law, as wisely and thoroughly executed as is our present State law, would be a godsend to our country. We are constantly bringing plants from other countries, and are getting many of our most valued fruits and vegetables by this practise. We are in constant and perilous danger, in this incessant introduction of plants, of bringing with them just such pests as this Argentine ant that is so grievous a pest about New Orleans. Is it not our privilege and duty, to favor and urge this general quarantine against our insect foes?

Gipsy and Red-Tailed Moths.

These are two insects that have been brought into Massachusetts from Europe, which have done serious damage, and have threatened widely to extend their frightful ravages throughout the country. The old Bay State has already expended a million dollars in fighting these two pests. It is very difficult to exterminate an insect when it has once gained a sure foothold in a country. It would be far better and cheaper to keep it out, as suggested above. Massachusetts has waged a fierce battle against these two foreigners, and to so little purpose in the past that her people were becoming quite discouraged.

A New Method of Warfare.

Years ago, Southern California was alarmed by the attack of the white scale, which was brought from Australia. This scale threatened not alone the citrus trees—orange and lemon—but was a promiscuous feeder, and seemed likely to sweep every green thing from the face of the earth. Some orchardists, discouraged in the face of this enemy, began to uproot their citrus trees. Happily a little lady-bird beetle from Australia—the land that gave us the white scale—was introduced, and soon the white scale was as rare as it was previously threatening. Thus by the introduction of a little friendly beetle, known everywhere in California as the Vedalia, a very profitable and fascinating business was saved from total ruin.

In the light of this wonderful experience, it seems strange that wise Massachusetts had not at once upon the outbreak of the gipsy and red-tail moths, gone to Europe to find the enemy that holds them in check in their native home. Two years ago this plan was adopted, and we learn that already the little parasites are conquering the despoiling moths. We must remember that all insects in the place of their nativity are of necessity held in check by parasites. When, then, a pest is brought us, is it not wise to seek out whence it came, and go at once to find, if happily we may, what holds it in check, and at once bring this friend to our shores?

A Needed Official.

The cotton-boll weevil, was one of these grievous foreigners, which was laying heavy tax on the cotton-growers of Texas. The Government has voted heavy appropriations to conquer this foe. It is now found that native parasites are attacking this new foe, and bid fair to wipe out the evil. We see that we need more attention and study of these ubiquitous insect foes. Insects are so small, their ruin so great, their life history so complex, that it is very wise to employ the very best talent to investigate them, and report the best ways to cope with them.

Think of it! We produce an annual crop, in our agriculture, of about $7,000,000,000. It is said by the best authorities that one-fifth is sacrificed to our insect foes. It is certain that much of this could be saved had we more knowledge. Should not this urge that we have a State entomologist in every State, and that in large states, or in such States as California where fruit is of such great importance, that we have even more than one?

I have no ax to grind, or any direct personal interest in this matter, yet I am sure that a wise expenditure of dollars, in this way, would mean a harvest of thousands. Who could estimate the cash returns from the researches of Harris, Fitch, Walsh and Riley, and many more of later date? I believe that no wiser course could be followed, than to secure an able, competent entomologist in every State. California is to the fore front in this matter of insect control, and I doubt if any other section of the world could show such financial results. It simply shows that it pays.

The Present Season.

We have had good rains, and very timely ones, but the prospects for a honey crop are most discouraging. The cool days, like those of our last two seasons, are hindering brood-rearing, are holding back the nectar of the bloom, and are holding the bees in the hives. We thought we were sure of a great honey-year, but now we fear at best that we shall get but a very meager crop. We can only hope that the damp, cool weather, that is so delicious to our feelings, may be speedily cut short.

Claremont, Cal., May 6.

Transferring of Larvae in Queen-Rearing

BY TH. REIDENBACH.

A most important point to be looked after when rearing queens, which is necessary in every extensive apiary, is perfect, vigorous, and long-lived queens from our most industrious and profitable colonies. If the apiarist can obtain natural-swarming cells from such colonies, he is unquestionably very fortunate, for such matured queens are of highest quality, but unfortunately such colonies swarm seldom. For this reason, it is considered a good practise to utilize even swarming cells of more inferior colonies by grafting them with minute larvæ from a breeding-queen, according to Weygandt's excellent discovery by which queens are reared equally as good as those reared under natural conditions. Such queens are far superior to those resulting from post-constructed cells.

A strain of bees constantly bent on swarming, like the Krainer or heather bee, gives the apiarist very much trouble, and he has it in his power to transform them into a more peaceful breed by grafting his swarming cells with larvæ from more desirable stock, and in due time he will have bees of altogether a different nature.

It is sometimes asserted that the inferior blood of the foster-mother colony crops out in the young, but in no way does experience confirm the assertion.

What course we would better pursue to perform this work, is a question. A good way is this: When an inferior colony is found having queen-cells under construction the queen is imprisoned, and from all queen-cells with young larvæ the latter are removed, then replaced with other young larvæ from 24 to 48 hours old, of superior stock. A fine camel's-hair brush drawn to a point is used for this work. Larvæ may be removed the easier if the cell-walls are cut down from the brood-comb before trying to remove them.

Sometimes a colony will construct queen-cells over their own brood besides; they should be destroyed, for it has been found in practise that such post-constructed cells which are usually found nearer the center of brood-combs are not finished up when grafted.

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It is a tendency of bees to build queen-cells along the edges of brood-combs, and it is well for the apiarist to observe and make allowance for this. Conditions are evidently more favorable for the perfect growth of queens when the cells are along the edges of combs. Cells containing larvæ 3 or 4 days old may be grafted successfully if in proper position.

From 9 to 10 days after the operation the cells should be utilized.—Translated and condensed by F. Greiner, of Naples, N. Y., from Leipz. Bztg.

[A common pin inserted with its point into a fine stick or handle, has been found to answer very nicely for moving larvæ.—F. G.]

Fall and Spring Feeding—Convention Program

BY DR. C. BOHRER.

There is probably no subject upon which more has been written during the last year than that of fall and spring feeding of bees, and while it deserves the careful consideration of all bee-keepers, it should not be forgotten that it may be overdone, either in the fall or during the spring months.

On page 574 of Gleanings, Editor Root says that spring feeding of bees is really a question of locality. I hope he will pardon me for assuming the ground that conditions as well as locality are involved in the matter of feeding. For instance, if a colony at the end of the year's honey-flow has not an ample supply of honey stored to carry them through the winter they are confronted by a condition that is frequently met with in any locality where bees are kept, and fall feeding is the only remedy that will save the colony. And in case they have stores sufficient to carry them through the winter months, but not sufficient to meet the demands of the colony, in the matter not only of supplying the wants of the bees that have lived through the winter, but a sufficient quantity also to enable them to carry on brood-rearing to a desirable extent, they are again confronted by a condition that can be met only by feeding. This condition will be encountered in any locality. And that bees can be fed so much in the fall that there will not be a sufficient number of empty cells in the lower and front part of the brood-chamber for them to go properly into winter quarters in, I think no experienced bee-keeper will for a moment doubt. I have had bees crowd out a queen to such an extent that on the first of September there was not as much as 6 inches square of empty cells in a 10-frame Langstroth hive in which to rear brood. This brings another condition, namely, too few bees to keep up a sufficient amount of animal heat to keep the inmates of the hive in perfect health.

In spring feeding the queen may also be crowded out to such an extent as to prevent a suitable increase of bees, so that when the honey-flow proper begins, the number of bees will be too short to store honey rapidly. Just how much to feed a colony each day will depend upon circumstances to quite an extent, for while a colony strong numerically at the close of the winter months, or when the brood-rearing season proper begins, and is headed by a prolific queen that can supply her workers with all the eggs they can develop into bees, may consume from half to one pint of syrup each day, many other colonies owing to a scarcity of numbers and queens not desirably prolific, will require a smaller amount.

My own observations, beginning over 44 years ago, have led me to conclude that nothing short of ocular inspection will reveal to us the actual amount of food a colony will require each day. But that a shortage of food at this season of the year means failure, and over-feeding or filling the cells of the brood-chamber to the extent of crowding out the queen can not bring success in a desirable degree, is certain. But again, an 8-frame Langstroth or Jumbo hive may at the end of the honey and brood-rearing season, be well supplied with both bees and honey. And owing to a backward turn of the following honey season in our northern regions, it may run short of stores and perish if not fed. In cases of this kind, locality cuts something of a figure. But if the hive in a northern country contained 10 well-stored frames in the fall, locality would not be as likely to call for spring feeding as in the case of the 8-frame hive.

But with ample stores to last a populous colony with a prolific queen from the close of the honey-season to the return of the next honey-flow proper in any locality, I have never been able to see any benefit in spring feeding. For a strong colony with a prolific queen and ample stores on hand of the previous year's collection, I have never known to neglect seasonable brood-rearing, except as interfered with by early or late spring temperature.

PROGRAM FOR THE DETROIT CONVENTION.

I see that Secretary Hutchinson has made some suggestions as to what the program should be for the National convention to be held at Detroit, Mich., in October. And he also asks for suggestions from others. He speaks of a banquet. I will suggest that this be omitted, as it is not likely that all will care for it, and unless all who attend are willing participants, it would not be a desirable feature. The object of such associations is the dissemination of knowledge concerning the industry of apiculture. A banquet, as I understand it, means a feast not only of edibles, but also of words in the way of toasts and social conversation, which, as the Secretary says, will require not only from 3 to 4 hours of extra time—which almost all in attendance will enjoy more in getting sleep so much needed after a journey requiring one or more nights on the road with but little rest—but it will require from $1.00 to $2.00 each to defray the expenses of the same.

He suggests a debate at each day session between two of our best speakers and most experienced bee-keepers, on some question. For instance, he mentions, "*Resolved*, That the 12-frame Langstroth hive is more desirable in the production of extracted honey than the 8-frame hive-body." My judgment leads me to believe that the question-box will bring this topic before the convention in a manner that will bring out more information of a practical nature than a two-handed discussion; for the reason that there might be persons present who could, if permitted to do so, enlighten both of the disputants selected. A free-for-all discussion will, I believe, prove to be both the most satisfactory as well as the most profitable. A very few short papers, by able, practical bee-keepers, left open to discussion, may also be of real worth.

I hope to be at that convention. I was at the first National convention ever held in the United States. Mr. Baldridge, of Illinois, and myself, are the only persons that I know of now living who were there. While that was an enthusiastic convention and was quite well attended, everything considered, I hope the Detroit gathering may be the largest body of bee-keepers ever assembled in this or any other country.

I moved to Kansas in 1873. This State was not then well adapted to bee-keeping, but we have been busy all these years in making it truly a land of both milk and honey. Alfalfa is a great producer of the above named articles. And Dr. Miller can locate here in any of our alfalfa districts without any danger whatever of being crowded out by persons overstocking the country with bees.

But a friend speaks of the first evening session being devoted to the discussion of the diseases of bees, then have an inspector to tell us how the bee-keeper can detect foul brood. I am not, and never will be, an inspector of apiaries, yet I have diagnosed foul brood and have successfully treated it, and will claim the right to give the convention the benefit of my experience, if in my judgment I ought to do so. So let us not make any rule entirely inflexible. In short, to outline what might be a fair program, is proper. But as many persons are likely to be present who wish to hear subjects with which they are not so familiar as they may desire to be, I shall suggest that the convention members be left free very largely to make their own program. True, one evening session might be pleasantly and perhaps profitably spent in toasts and responses; and also make some effort to induce the public in general to attend.

Lyons, Kansas.

The Question of Hives and Supers

BY L. E. GATELEY.

I believe this is a subject in which most bee-keepers are more or less interested, whether their colonies be few or many, for what one is there among us who doesn't use them? It is a question so many-sided that one can always have a new side presented to view just as long as he cares to keep turning it over. We have been and are mostly interested in the "best hive for the production of fancy section honey" side of the question.

For a good many years I have been experimenting with the different styles of hives in an endeavor to determine just what style and depth are best for

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the sole production of comb honey, and at last there is but one kind left. I now use a hive containing 8 closed-end frames out of ¼-inch stuff and measuring outside 18x5½x1⅜, in each section of the divisible brood-chamber. Were I engaged in the production of extracted honey I would probably be using the Langstroth hive, as then if the most of the honey happened to be in the brood-chamber, it would be possible to remove it all in good shape; but for section honey, a brood-chamber filled with honey during the harvest is anything but profitable. Still, with deep frames, it is as well to allow the bees to fill the outer frames with honey, as to contract the hive by the removal of frames and then have trouble getting the outer rows of sections finished with the others. The only remedy is to contract from the top.

The divisible brood-chamber hive also has the advantage in being a great labor-saver. It is possible to handle nearly twice the number of colonies in as thorough a manner as if they were in deep, single-chamber hives. One can determine the condition of a colony by raising one of these hive-sections and looking through it, every bit as well as the man who goes over his hives frame by frame. When will bee-keepers learn to quit handling frames so much and handle hives instead?

The question of supers is an important one. Mine are for 4¼x4¼x1½ plain sections, and these are held in the super not by section-holders—no, sir!—but in wide frames. A slow, drawn-out honey-flow, such as we have here, requires all sides of the section to be protected from travel-stain as much as possible.

I was interested in Mr. Hand's article in the March issue, where he describes his methods of removing the filled sections. If he will nail the top-bar in a temporary manner only, the honey may be removed still more conveniently. This, also, makes it more convenient when filling with empty sections. The foundation can be put in much more rapidly after the sections are in the wide frames.

Fort Smith, Ark.

Report of the Chicago-Northwestern Bee-Keepers' Convention.

(Continued from page 150.)

THURSDAY MORNING SESSION.

The meeting was opened with prayer by J. L. Anderson.

Pres. York being called away, Dr. Miller occupied the chair for the first part of the morning session.

Mr. Kimmey—As is well known to you, the wife of our President died recently, and it is thought proper to bring in these resolutions:

Whereas, It has pleased Almighty God in His divine wisdom to take from our midst Mrs. George W. York, wife of our respected and beloved President, therefore be it

Resolved, That while we bow with reverent submission to the Divine Will, we can not but feel the most profound sorrow at the irreparable loss of a kind friend and worker for good in all the relations of life.

Resolved, That we tender to the sorrowing friends and surviving relatives our heartfelt sympathy in their great bereavement.

Resolved, That a copy of these resolutions be spread upon the minutes of the Association, and a copy thereof be transmitted to the afflicted family.

It was moved and seconded that this preamble and resolution be adopted.

Mr. Kimmey—Before putting the motion, it seems fitting that some proper person say a few words on the resolutions.

Dr. Miller—It is with some diffidence that I speak. As to Mrs. York, she was unknown to most of you. And yet I want to say to you that she was a more powerful factor than most of us realize. I wish I could tell you just how I appreciated her. I knew her well. I have been in her home a great many times. To begin with, she was a woman of remarkable executive ability. She could carry on business, and did business as many a man would. Yet she was a womanly woman. She was a woman of tender heart, and yet a woman who had strength of character to come out strongly on any point where the right was not having its way. She did not hesitate to say so, no matter whom it might touch. A person of that character is not thought of as being gentle at heart; yet she was a tender woman at heart. I am just realizing the loss that Mr. York has sustained by her being taken away. Few can appreciate the loss of a woman of so strong character, and yet so kind, and tender, and thoughtful of every one else.

Mr. Anderson—I endorse what Dr. Miller has said. I knew Mrs. York well in her girlhood. She lived but 2 miles from my home.

The resolutions were unanimously passed.

Mr. Kimmey—Most of you know that we also have lost Mr. Meredith. I submit the following resolutions:

Whereas, It has pleased Almighty God in His divine wisdom to take from our midst Mr. E. K. Meredith, a long-time member and worker in our Association; therefore be it

Resolved, That while we submit to the Divine Will we can not but feel the most profound sorrow for the loss of our fellow member and kind friend;

Resolved, That we tender to the sorrowing friends and surviving relatives our heartfelt sympathy in their great bereavement.

Resolved, That a copy of these resolutions be spread upon the minutes of the Association, and a copy thereof be transmitted to the afflicted family.

Mr. Moore—In this vocation I feel that I am entirely out of my place. It is never pleasant to look into an open grave. This brother and sister who have met with us year after year and have smiled into our faces, and have answered our remarks, and have been to us like a brother and sister—it is a sad thing to come to the time when they are with us no more. But that is a thing that no living man or woman can avoid. Slowly, but surely, every one of us is going to that bourne from which none returns. During life it is impossible to separate some thoughts of religion from our daily life. As we approach the end of life that we call Death, every man and woman turns instinctively to thoughts of religion. Without religion we are but as the animals who live a day and then are gone. Our religion teaches that we are not as the animals, that this is just a school-time preparing us for the Great Beyond. That is our hope. This brother and sister who have been so dear to us, and have been as brother and sister of our own family, we are confident that they have gone to a better land, and that we will meet them again. That takes the despair out of our hearts. Even the Indian talked of the "Happy Hunting Ground." He had a hope of Heaven, and we have a hope of Heaven, and hope to meet our friends again who have gone to the Better World. The great God who made us all, who made man in His own image, would not take that man and drop him into nothingness. That would not be symmetry. We have a beautiful existence in view. If we are going to trade this life for Heaven, then only is the life of man complete. We will meet our brother and sister again in the Better Land.

Mr. Winter—I live within about 2½ miles of Mr. Meredith's home, and feel that I ought to speak a word about him. He was a good-hearted man, always willing to help his neighbors, even to put himself out. He helped me in a good many ways. He was a good man, well liked.

The resolutions were passed unanimously.

FOUL BROOD LAW FOR ILLINOIS.

Mr. Kimmey then offered the following:

Resolved, That it is the sense of this Association that the Legislature of Illinois should pass an effective Foul Brood law similar to the Wisconsin law, so as fully to protect the bee-keepers of Illinois from carelessness and ignorance on the part of those engaged in our industry.

Mr. Dadant—The members who have had something to do with the attempts at getting the law passed in the State

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Legislature twice before, are very anxious to see this resolution passed, by the bee-keepers of the Chicago-Northwestern, because we should have behind us not only the example of other States, but the opinion of the bee-keepers who represent the industry in Illinois.

Mr. Wheeler—Does this body represent the bee-keepers of Northern Illinois?

Mr. Kimmey—The committee considered this matter, and while there may be force in the argument that this Association consists of bee-keepers from other States, and that it perhaps may seem a little out of place that the bee-keepers from adjoining States should call upon the Legislature, still *bees* know no State lines. The man from Wisconsin is interested in Illinois. So are the States of Iowa and Missouri which adjoin our borders. If any objection be made to these territorial bounds, we have this to say, that we shall call upon the Legislatures of all States. We should pass this resolution to strengthen the hands of the legislators.

Mr. Reynolds—How many bee-keepers are there in Illinois? [About 35,000.] Do the bee-keepers know this?

Mr. Anderson—The bee-keepers should be at this convention. The Chicago-Northwestern, the Illinois State, and another Association in the southern part of the State, represent the bee-keepers of this State, and if they are not here, it is not our fault. We represent a good share of the bee-keepers of Illinois.

Mr. Reynolds—How many have heard of it? What papers have advertised it?

Mr. Kimmey—We don't pretend to represent the bee-keepers of Illinois. Simply the opinion of this Association. We are simply speaking for ourselves.

Mr. Reynolds—In regard to this resolution being put before the Legislature—where, in case of disease you were given 24 hours to clean up or burn, would it be to your advantage? Simply for the manufacturer; simply that we should have to buy new supplies.

Mr. Kannenburg—The law did not say that an apiary must be burned up if the bee-keeper is willing to cure it.

Mr. Whitney—The point is: Do we want to cast our influence in favor of a good foul brood law? It seems to me that designating what kind of a law the Legislature shall pass, is out of the question. Shall we adopt a resolution putting ourselves on record that we are in favor of a good foul brood law? I am in favor of the resolution.

Mr. Moore—Just one word of information. The only organization that is recognized by the Legislature of Illinois, is the Illinois State Bee-Keepers' Association. Anything we do is purely advisory. After a talk with Mr. Stone, Mr. Smith, and Mr. Becker, I know their views entirely. They would like to get a law through that is perfect in all of its parts. It has been impossible to get any law at all. We need a law based on the Wisconsin law. We can say nothing as to what shall be put in that law. They will have to do the best they can, but this is old and is thoroughly understood by the bee-keeping fraternity.

Mr. Wilcox—This resolution simply says that we are in favor of a foul brood law. I had something to do with the Wisconsin foul brood law. One of the objections raised by one legislator was, What is to hinder shipping in foul brood from other States? Our answer was that we hoped to have similar laws passed in other States. We hope to have. " A law patterned after the Wisconsin law will be appropriate to Illinois. There is nothing objectionable about it. It is strong in its provisions, but never resorting to extreme. No rash measures have ever been employed by Mr. France, who is the inspector for Wisconsin.

Mr. Kimmey—We should not be hasty in so important a matter. If there is any danger of this law being passed for the advantage of manufacturers, we should stop and investigate. Is there any danger of this law being turned toward the manufacturers? How many Wisconsin bee-keepers are there here? (3.) Is this law a beneficial thing in your State?

Mr. Wilcox—I am sure it is a benefit to the bee-keepers of Wisconsin. It subdues and prevents foul brood. It does not benefit the supply-dealer, directly or indirectly.

Mr. Whitney—I think it is a great benefit. We feel perfectly safe in Wiscousin. It is well known that I have sold bees to come into Illinois. Before I concluded to send them I wrote to Mr. France and asked him if he knew if there was foul brood in the neighborhood. If there was any, I would not send them to Illinois. He said, "No." So I felt safe to send them. I feel very anxious that everybody should do what he can to get a foul brood law that is as effective as it is in Wisconsin. I think it is all right. It has not added one penny to the manufacturers.

Miss Candler—I have always felt that it would help me. I am very glad to have it there.

Mr. Reynolds—If the foul brood law is right, it will be all right.

Mr. Dadant—Is any one present who knows of any one in a State where they have a foul brood law that has caused discontent among bee-keepers.

Mr. Taylor—I am a foul brood inspector myself. We have a foul brood law in Michigan. The former inspector had been so busy that he used all the funds. More funds were supplied about July 1. During August and September I visited 40 or 50 apiaries. Any one would be surprised to go into a neighborhood and see the condition of the bees. I went where almost every apiary was rotten with it. In all my experience I found only one man who was dissatisfied. Most were glad to have me come. Bee-keepers generally are glad to have their bees looked into.

Mr. Reynolds — There was another clause that said if you had a colony of bees in one yard that was affected, you could sell no honey from that yard. The law should be fair—one that will work both ways.

Mr. Taylor—We have nothing to do with the nature of the law. The question is simply, Shall we have a law?

Mr. Wheeler—We have a foul brood law. The bee-papers say so.

Dr. Miller—There never has been a foul brood law. That bee-paper was mistaken.

Mr. Wheeler—We say there have been inspectors of the highest type. We don't know what they will be in the future. I understand that people know what Mr. France and Mr. Taylor are. We don't know what the future has in store for us. What we want to do is to ward off unfair people. We want to protect ourselves. We do not want to put ourselves in the hands of people who care nothing for us except what they can get out of us.

The resolution was passed unanimously.

(*Continued next month*)

By W. A. PRYAL, Alden Station, Oakland, Calif.

'Twas a Dry Old Time.

At the beginning of April I wrote that the indications were good for a fine crop of honey, with the proviso, however, if the atmospheric conditions during the honey-secreting period, would be propitious. The growth of all vegetation was never better than it was up to near the middle of April. But as there had been no rain since the first week in March to amount to any thing, plant life living on the outer crust of the earth, began to wane, and by the end of the third week in April the verdure of the hills commenced to parch—the drouth was being seen on every hand. All late crops even in the low lands were not what they should have been. And some of these April days were really summery—they were such days when the heat starts pitch a-running from fence-rails.

Of course, such a dry spell had a bad influence upon the duration of the early honey-flora. But the flow of nectar was splendid; not in 30 years, as far as I am able to recall without consulting data, did we have such a flow of fine honey—it was nectar fit for the gods. It was a flow that comes but seldom in a generation in these parts, but when it comes it will be remembered. The honey was not only clear, but the flavor was delicious, and the aroma was delightful. In short, it was ambrosial, if we mortals

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can form a conception of such a condition. Of course, I know the quality of the honey I write of, but as to the food of the gods—well, 'tis rather paganish to write that way, but we all do so (and also speak that way, too) when we get the chance.

And so the long, dry days came and went, until here it is May-day, the "gladdest of the year," or at least it should be so. But on the calendar of this portion of the world it may be well always to write across that date: "Look out for rain." One out of three will surely be wet. Many a gathering that went to the country in summer costumes for a May-day outing came home all drenched and bedraggled, withal the morning was sunshiny. But this morning was not a bright one; clouds were gathering in the southwest in the direction of the great fleet of war-ships coming up the coast to the Pacific metropolis. Then a good gale came up; it became cold, and by 4 o'clock in the afternoon began the welcome rain. At this writing it is falling in a steady downpour, so at last the parched earth will get the soaking that it needed—a wetting that the faithful were called upon in the churches to pray for. So our honey-bowls are out right side up.

I trust the rain is general, and that the southern counties where those big apiaries are, will be benefited, too.

Advertising Honey-Plants.

The past spring I devoted more than usual of my time to gardening of a more or less high-pressure degree. In years gone by it was one of my recreations, and sometimes it was my business to be mixed up with the fruits, flowers and plants. But for quite a number of years previous to the big San Francisco fire the nature of my business was such that I was one of those commuters that just go and come; eat, sleep and then rush along with the everlasting business grind of commercial life, and never have time to enjoy life as it should be enjoyed. But the past winter and spring I had been getting a good deal of satisfaction out of the rural side of what we call existence; and what a pleasure it is to be able to lead such a life! I have not tried to be a specialist in this simple life; there is not pleasure enough in it for me—it is little better than the mad rush for the nimble dollar in the city marts.

Well, I was going to state that in my gardening preparations I sent for a score or so of nursery and seedsmen's catalogs. In studying them I notice that a couple of them (and they deserve special notice) in listing certain kinds of plants took occasion to mention that they "are good for bees." That's good; and why not? It is customary to sell seed of fodder plants for cattle and swine; why not for the bees also? They are part of the equipment of many a farm, and they deserve to have some forage, even if it is in an out-of-the-way corner. Unlike the other money-getters of the place, the bees will seek their feeding places—no watering or feeding, or other trouble do they demand of you.

Liquefying Honey with Hot Air.

Endorsing the idea of keeping honey in a heated room for several days, J. E. Crane says this in Gleanings:

"We have put in steam apparatus for this purpose the past season, and find it is easy to keep the temperature of our tank-room from 90 to 110 degrees. Honey kept there for a day or two is much more readily liquefied when placed in a water bath at 140."

Starting Nuclei.

When bees are placed on a new stand to form a nucleus, they will promptly desert their brood, according to what we are sometimes told. I have formed hundreds of nuclei, and have had very little trouble from desertion. There is an immense difference between queenless and queen-right bees. While bees taken directly from a laying queen are anxious to get back to their home, queenless bees will mostly stay where they are put. The strength of the nucleus also makes a difference. A very few bees seem lonesome, and feel like hiking out. Three frames of brood with adhering bees taken from a colony that has been queenless two days or more will stay in satisfactory numbers, wherever put, without any imprisonment. If only 2 frames are taken, the entrance should be plugged with green leaves or grass, which may be removed in 3 or 4 days, or the bees may be allowed to dig their way out as the leaves dry. No danger of smothering in a full-sized hive.—Stray Straw in Gleanings.

Bottom Starters in Sections.

Dr. Miller, the originator of bottom-starters in sections, gave it as his opinion that in order to make a success of them it was necessary to have the section filled with foundation, because if the top-starter was not promptly fastened to the bottom-starter the latter would topple over. H. M. Jameson, in Gleanings, knocks the "foundation" from under the doctor's opinion by saying that he has used many thousand sections with a 3-inch space between the 2 starters, and has no trouble. He says:

"In a cool time the bees invariably begin at the bottom, and in the T-super they start earlier than in one with slats. I think they will fill the T-super earlier than the others. The T-super is warmer. In building up from the bottom the bees start with an extremely broad case, and usually are the full width of the section, or 1½ inches thick when not half way up. They make some drone-comb with a perfect union wherever the two parts meet. This building from below, in all cases that I have seen, is caused by lack of heat in the upper part of the super, while the sections or frames are warm close to the cluster. Give me 2 starters and T-supers. I could give some fine samples of up-building."

Editor Root comments as follows on the above:

"We would inquire whether this building of the bottom-starter first is not unusual. Is it true that the T-super is warmer than the other styles? We can see no reason why it should be. It does, however, permit the sections to stand closer to the brood-nest, and this may account for the bees favoring the bottom-starter."

Nailed Sections.

G. M. Doolittle prefers these because less inclined to get out of square and to break down in shipping.—Gleanings.

New Zealand Bee-Bulletins.

From that far-off and very up-to-date land, New Zealand, come Bulletin No. 5 and Bulletin No. 18 on bee-culture. They are written by that experienced veteran, Isaac Hopkins.

The first, a revised and enlarged second edition, contains: I. Practical Advice. II. Apiculture in Relation to Agriculture.

The second contains: I. Advice to Beginners. II. Bees in Relation to Flowers and Fruit Culture.

Practical details are such as would pass current on this side of the globe.

It is pleasant to note the kindly manner in which American bee-keeping and bee-keepers are recognized.

Differences in Feeding Bees.

As to the matter of feeding sugar for winter stores, no small difference obtains in practice, and a still greater difference in opinion. Some are of the opinion that, if possible to avoid it, one should never feed sugar. Others believe it a good plan to feed sugar every year. All, however, are agreed that in places where unwholesome honey-dew is in the combs for winter stores it is better to replace such unwholesome stores with sugar. Equally all are agreed that it is better to feed sugar than to let the bees starve.

With regard to the proper density of sugar syrup, and the proper time to feed for winter, opinions differ. The opinion is perhaps gaining ground that it is better to feed early, using equal parts of sugar and water; others favor late feeding with 2 to 2½ parts sugar to 1 of water. An interesting discussion of this part of the subject is given by O. S. Rexford in the American Bee-Keeper, as follows:

"October 4th I set a colony of bees on scales, weighed them carefully and fed them eight pounds of granulated sugar

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dissolved in seven pounds of warm water.

"Seven days later, on October 11th, the day the convention was held, the colony weighed only five pounds more than before feeding.

"I may say here that a few days later, when I took the colony from scales, I found that it had lost one pound more, making a net gain of 4 pounds from the 8 pounds fed.

"I know by examination that brood-rearing had stopped before I fed, and on October 12th there was no young brood in the hive.

"Why was there so much greater loss in this feeding than in the feeding by Mr. Latham?

"I may not be able to explain in a satisfactory way, but let us look at the different conditions.

"I fed a thin syrup in warm weather. (We had warm nights as well as days at that time.)

"Mr. Latham fed a much thicker syrup later in the season (the latter weeks of October) and in much colder weather.

"It is true that thin syrup, say about one part sugar to one part water, when taken by the bees in warm weather undergoes an important change. To say the least, it becomes more like honey. One important thing about it is that it will not candy readily.

"But I have found that in this locality this change costs. I have fed in this way many times in the last fifteen years, and always with a large loss.

"On the other hand, if we feed a thick syrup late in the season, we have simply sugar syrup transferred unchanged to the combs. This will candy quickly, and I can readily believe there will not be much loss in the process of transferring.

"In this case of feeding by Mr. Latham, with his bees fixed as warm as I know he would fix them, I think his bees did something towards changing the syrup. But for wintering my own bees I had rather have four pounds of stores from thin syrup fed in warm weather than eight pounds from thick syrup fed late, unless something harmless to the bees had been put in which would prevent candying.

"I should also want some assurance that a large portion of the late fed stores were capped over."

Strange Case of Robbing.

No. 29, although it had no feeder on, was flying fast, and, from the way the loaded bees were falling in the grass, I suspected it was robbing from a neighbor's apiary. After a time I felt pretty sure its source of supply was nearer home, and getting some flour, threw it in the entrance, and inside of 2 minutes I found they were helping themselves at hive No. 10 at the opposite side of the yard. Back of these colonies are strong nuclei headed by Carniolan queens, but the bees of No. 29 all have a yellow band, showing a cross of Italian. The strange thing about the robbing was that although the bees of No. 29 had free access to hive No. 10, yet the bees of No. 10 would pounce upon any other intruder that would come along.

The way an occasional bright Italian would get treated when it came nosing around proved this conclusively. I threw a lot of wet grass in front of No. 10, and as a "counter-irritant," a feeder was placed on No. 29, the object being to give them something to do at home. About an hour afterwards the grass was taken away and I went to dinner, but when I came back the same game was quietly going on. You could hardly call it "robbing," the bees of No. 10, judging from their actions, looked upon the inmates of No. 29 as being especially privileged, and paid no attention to these whatever.

As I had to go away in the afternoon, a friend helped me to change the hives around, i. e., No. 10 was placed on the stand of No. 29 and vice versa. They seemed so knocked out by the change that I felt sure everything was all right now. Next morning I was still of the same opinion till about 11 o'clock, when I discovered that No. 29 had got located all right again, and was once more helping itself out of hive No. 10 at the opposite side of the yard. What did I do now? As I had to go to the Cashel yard that day, in disgust I threw No. 10 on the wagon and took it with me. It was placed down in a yard of over 80 colonies, right in the middle of the day, and it would fight anything that came near it. Why they acted as they did before moving is a mystery to me. —J. L. Byer, in Canadian Bee Journal.

Acid in Thick Sugar Syrup.

It is more or less generally held as sound doctrine that the best way to feed sugar syrup—if it must be fed—is to feed quite early equal parts of sugar and water; but if fed late it must be thick, and acid must be added to prevent granulation. Now comes J. L. Byer, in Gleanings, saying:

"You will pardon me, and I assure you there is no intention of being impolite, when I say that all such assertions as far as wintering results are concerned (in our locality), are so much 'bosh.'

"Upon what do I base such a broad statement? I answer, from practical experience, and result of feeding thousands of pounds of two-to-one syrup to hundreds of colonies during different years, without the loss of a *single* colony so fed. The only severe winter losses we have experienced were caused by the presence of honey-dew in the hives, and the labor factor is the only thing that keeps me from feeding every colony, every fall, with this *dreadful two-to-one* mixture. With colonies so fed I would not give five cents a hive as insurance against winter losses. Under certain conditions, in exceptional cases, thick sugar syrup will granulate, but so will good clover honey. Can either you or the good doctor make the positive assertion that, under like conditions, syrup that was fed thin will never granulate?"

It is hard to understand just why there should be such difference, but clearly there is a decided difference in result between Mr. Byer and others who say that with late feeding or heavy syrup, granulation has occurred. Mr. Byer, however, has used only 2 parts of sugar to 1 of water, and where granulation has occurred has it not always been with 2½ parts sugar to 1 of water? Possibly others than Mr. Byer might find it all right to use his proportions for late feeding.

Thick Extracting Combs.

Richard M. Lamb, in the British Bee Journal, referring to the spacing of extracting combs 1¾ inches or more, as practised and advocated by E. D. Townsend, says he bought 100 wider frames, and for a few seasons compared the work done in them with that done in the ordinary frames with the 1½ inch spacing, and found the former sadly disappointing. It may be well for some even on this side the water to consider his objections. He says:

"1. Our climate is not so suitable, because not so stable, for the production of thick combs as the American.

"2. A super with 1¾-inch or 2-inch spacing will not be taken to so soon as another with 1½-inch space.

"3. The combs in the former will not be worked with such an even surface, and the bee-keeper will be *compelled* to adopt the wasteful practise of *running his uncapping knife deep.*

"4. The colony will not be so soon ready for another super, but may prepare to swarm.

"5. The same super with 8 frames will be completed in most seasons a week later than that with ten frames.

"6. The quantity of honey harvested will be less—in a fair season probably the proportion of two supers to three.

"7. The quality will be inferior as regards density. Compare both as soon as they are sealed, and notice the difference.

"8. The super which is first finished will catch the early market; that with thick combs never, though it may later catch a judge's eye.

"Granted that time is saved in handling, uncapping, and extracting 8 frames instead of 10, to which we may add the cost of 2 sheets of foundation, must we not also fairly reckon the time gained in 2, 4, 5, and 8, in order to decide which are the more profitable—thick or thin combs?"

Getting Sections Built Solid for Shipping.

To get sections built solid to the wood, some have used a piece of foundation of full size, fastening it with hot wax on all sides. Others have used split sections, the section being split in two parts, a sheet of foundation pressed between the two parts, and the projecting sheet trimmed away at the outside. H. H. Root discusses the two kinds, and then Dr. Miller replies as follows in Gleanings:

"Split sections, as compared with putting in foundation with hot wax, are well discussed by H. H. R., p. 18. Pardon the egotism if I suggest something better than either—bottom starters.

"First, let me say that the objection to the appearance of split sections, if I

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am rightly informed, is a very serious one in England, where they are more used. I feel sure that, if my sections had a split with the wax showing through on top and sides, it would reduce the price very much more than 50 cents a thousand. That one objection gives the preference to the hot-wax plan.

"But compare either plan with bottom starters. If a section is fastened securely at top and bottom it must ship safely, even if it does not touch either side. The bottom starter as well as the top starter is fastened just as securely as by the hot-wax plan, for it *is* the hot-wax plan. How about the sides? Well, I do not think you could tell by the looks of my sections whether the sides had been hot-waxed or not; so, as far as safety in shipment and looks are concerned, I believe hot-waxing a full sheet has *no* advantage over the bottom starters. The only question, then, is as to comparative cost of labor in putting in. You estimate the time for hot-waxing at about 200 an hour. Possibly an expert might do better than that. But an expert will put top and bottom starters in 480 sections in an hour. A single piece to fill the whole section must be cut with great exactness.

"A one-piece section is not always exactly square until forced square in the super. If foundation is hot-waxed in a section that is a little out of true, and it is then crowded square in the super, there will be trouble. A variation of 1/8-inch or more in cutting top and bottom starters will make no trouble, and there will be no trouble with a section somewhat out of true.

"When the section comes into the consumer's hands, if there is any preference it will be in favor of the bottom starters, for the hot wax poured all around ought to make it just a *little* harder to cut the section clean from the wood.

"Against bottom starters it must be said that more skill is needed in using the hot plate, or an occasional top starter may drop before the bees can fasten it, while any slouch can make it secure by daubing on enough wax with the other plan. Your honor, we here rest the case."

Honey Cough Syrup

Honey and the juice of a lemon in equal parts well stirred together, taken a teaspoonful at a time will allay many a troublesome cough. For more obstinate ones, the addition of a teaspoonful of glycerine stirred into the honey and lemon-juice will be found helpful.

To break a heavy cold, take once in 3 or 4 hours, a pint of hot water into which has been stirred 2 big spoonfuls of honey, the same of cream and as much cayenne pepper as one can readily take up on a dime. Abstain from any other food for 24 hours.—American Bee-Keeper.

Stung by an "Angel"

A little girl was being put to bed one summer night and after she had said her prayers her mother kissed her goodnight and said:

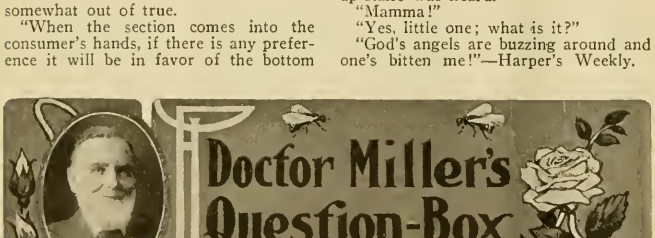
"Now, go to sleep, dear. Don't be afraid, for God's angels are watching over you."

In a short time, while the mother and father were at tea, a small voice from up-stairs was heard.

"Mamma!"

"Yes, little one; what is it?"

"God's angels are buzzing around and one's bitten me!"—Harper's Weekly.



Send Questions either to the office of the American Bee Journal, or to
DR. C. C. MILLER, Marengo, Ill.
Dr. Miller does *not* answer Questions by mail.

Dead Worker in Queen-Cell.

Replying to I. D. Pearce, page 144, I may say that it quite frequently occurs that after a young queen has left her cell the workers fasten back again the cap she had left banging by a hinge, and in a number of such cases I have found, as he did, a dead worker. Whether they do it as a joke, or with malice aforethought, this deponent sayeth not.
C. C. M.

Position of Bait-Section.

If you had just enough bait-sections to put 4 in each of the supers that are first placed on the hives, in what part of the supers would you place the bait sections? Iowa.

ANSWER.—I don't know. If you had said one or 5, I could have said put one in the center, and if you have four more put them in the corners. You see there may be 2 points in view in using baits. The first is to get bees to work as soon as possible, the second to get them to finish evenly all sections in the super. The nearer the center you put your baits, the sooner will they be occupied by the bees; the farther from the center the more even the work in getting all sections finished at the same time. With 4 baits to the super, work will be sooner begun by putting them in the center, and the most even work by putting them in the corners. On the whole, perhaps it might be well to compromise a little, putting baits in neither corners nor center, but putting 2 on each side of the 4 central sections.

Carniolan Bees—Making Increase.

1. I have 3 colonies of Italian bees. I think the Carniolan bees are better, so I want to get Carniolan queens, or a queen. Where can I get them pure?

2. I want to increase them so that they will store more honey. Alsike blooms about the third or fourth week in June. I think if I put a board on top of a screen in the center and a 1½-inch hole in each corner, covered with excluder zinc, and put the super on full of combs and one frame of honey, about June 10, putting a Carniolan queen in the super; then in 2 weeks take the colony away, put the super in the colony's place, the old bees will stay with the Carniolan queen and build her up strong so that she may swarm naturally in a couple of weeks. If this is a good plan I will buy 3 queens; one for each hive-super.

3. Would a queen be all right to come so far as from Texas or California to Ontario?

ANSWERS.—1. I don't know where is the best place, but the advertisements in the bee-papers ought by this time to inform you.

2. I doubt if the plan will work out as satisfactorily as you expect. If you mean to leave the old queen below during the 2 weeks, there is danger that the queen above might be treated unkindly. If you mean to leave the colony below queenless during the 2 weeks, you will find the queen above will not lay very heavily, and the whole force at the end of the 2 weeks will not be as strong as if you introduced the queen in the usual way. In either case, I understand you will take the old colony away at the end of the 2 weeks, leaving the new queen with the small force she will have and the flying force that will join. You may feel safe that she will *not* swarm in a couple of weeks. Moreover, it will be strange if she swarms before the next year.

3. Yes, indeed; many queens have been all right after crossing the ocean.

Best Hive for Extracting—Red Clover Bees.

1. Would the Danzenbaker hive be a good hive for extracting?

2. If I used Danzenbaker frames and reversed them so that the comb would be attached on all 4 sides, could I extract from them without wiring?

3. What hive would you suggest for one to use for extracting?

4. Is there such a thing as Red Clover bees?

5. Are they better than Italians?
SUBSCRIBER.

ANSWERS.—1. Those who are partial to the Danzenbaker hive generally use it for sections, but it could also be used for extracting.

2. Any frame may be used for extracting without wiring if you are sufficiently careful not to turn the extractor too fast while the combs are new and tender. Also, if a comb is very heavy with honey, extract partly the first side, reverse and empty the second side, then finish the first side. Combs were used for extracting some time before wiring was known.

3. Success may be had with any plain hive containing frames of Langstroth size, such as the 10-frame dovetailed.

4. Yes, there are strains of bees that do better work on red clover than the general run of bees. Unfortunately, the quality does not seem always to be handed down to succeeding generations.

5. Generally, it not always, they are Italians.

Swarming Out and Robbing.

April 18 colony No. 1 swarmed. May 1, it swarmed again. It has a clipped queen. After May 1, it was pretty cool and cloudy for several days, and I thought I would better feed swarm No. 2 as they could not gather any honey, etc. So I fed them, putting feed inside on the bottom of the frames. They did not have any comb drawn out, and the next day they swarmed out of the hive, but finally went back. Of course I never clipped the young queen as I wanted to wait until she was mated. "A B C of Bee-Culture" advises to wait at least 25 days, I think. Before they swarmed out, but on the same day, I thought I noticed some robbing going on, but could not tell for sure as I never saw a bad case of robbing. But the next morning I saw the bees in colony No. 1 carrying out dead bees, and the ground was covered with dead bees all around colony No. 1, but not very many were around the other colonies. I have only 4 colonies—3 red clover stock, and one black or hybrid.

1. Did swarm No. 2 swarm out with the queen when she went to mate, or what was the trouble? Do you suppose they tried to go into their old home and a battle was the result, which was the cause of so many dead bees in front of No. 1? When the first swarm came out I hived them on the old stand, and moved the old colony to one side and left a ripe queen-cell for them to rear another queen from. I am sure the dead bees were not young ones, nor chilled brood caused by the cool weather at the time I speak of, because most of them were alive yet the next morning. The bees had been gathering honey

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pretty rapidly before the cool weather, but it seems as if half of them were gone now.

2. Would it help them any to give them a frame of brood and eggs? Would they destroy them when they haven't been used to any? I mean when a colony for some reason or other has no brood for 2 or 3 weeks, would it do to give them a frame? Wouldn't the good fortune come too suddenly? OKLAHOMA.

ANSWERS.—1. I can only guess. My guess is that the feed you gave that swarm was robbed out, and then the swarm issued as a hunger-swarm, hoping to better its condition by joining the bees in another hive. These latter resented the intrusion and fell upon the intruders, because they came with empty honey-sacs.

2. It is hard to see what harm could come from giving a frame of brood. A sudden accession of good fortune might be too much for one of the human race, especially one with a weak heart; but bees have more sense, or perhaps stronger hearts.

Wintering on Granulated Honey—Shipping Nuclei by Freight.

1. Bees generally winter well here on stores gathered in the fall, but last winter the honey nearly all granulated in the combs, with the liquid portion fermenting, causing the loss of half of the colonies by diarrhea; while some colonies with the same kind of honey, which did not granulate, wintered fair. What caused the trouble?

2. Would 3 frames of brood with 2 pounds of bees, in a light shipping-box, with 3-inch space below the frames, and wire screen on top and bottom, crated 20 boxes to a crate, to be shipped 1,300 miles by freight, be all safe without water?

3. If not, how much water would be required?

4. How much honey would they require?

5. Would it be a success if shipped that far?

6. If you had a chance to start anew, which section would you use, the 4¼ x 4¼ plain or bee-way? WISCONSIN.

ANSWERS.—1. Some peculiarity of atmospheric conditions; which is only another form of saying I don't know.

2. Doubtful.

3. I don't know just how much; not a great deal, probably, but without any they might suffer. A sponge as big as your fist when filled would probably be enough.

4. I would guess not less than a pound of honey.

5. It ought to be; but there might be a big difference in shipping. To send them by express in a cool time would be quite different from sending by slow freight in the hottest season.

6. Beeway.

Preventing Swarming—Queens and Excluders.

I am very much pleased with your preventing-swarming plan, page 70, and answer to "Texas," page 119, and would like to ask some questions.

1. What do you mean by, "I have never tried the plan until cells were *started?*" Do you wait until you see eggs or larvæ in the cells, or do you apply the plan as soon as the bees build new queen-cells, others being empty?

2. Suppose you do not know the age of your queen, and you are uncertain if she is beginning to fail. How do you know if there will be swarming, or simply superseding of the queen, the colony being nevertheless strong? Is such uncertainty do you also apply the plan?

3. Is there any danger of the queen killing herself in attempting to cross the excluder in order to get into the brood-chamber, this last being placed above the hive-body?

4. What becomes of the sealed brood placed above the excluder? Will it die, or do you believe the bees will take care of it?

CALIFORNIA.

ANSWERS.—1. Some of my colonies, each year, make no offer to swarm, and these I do not want to interfere with. So long as there is any danger of swarming, I look through each colony about once in 10 days, and see whether they have made any preparation for swarming. If cell-caps are found with no eggs in them, I pay no attention to them. If no larvæ, but eggs only, are found in the cells, they are destroyed, but the colony not treated, for sometimes the bees will give up without starting any more cells. Even if very small larvæ only are present, sometimes destroying them will end the matter. But when eggs or very young larvæ are destroyed, very often at the next round, 10 days later, good-sized larvæ (4 days old or older) are found, showing that the bees are very much in earnest about swarming. At any rate, whenever such well-advanced larvæ are present, the colony is treated. I don't mean to say that the plan would not work, even if no queen-cells were started, but I would rather not treat it if not necessary.

2. I don't know of any way to be entirely certain whether swarming or supersedure is meant by the bees, so I keep on the safe side, and call it all swarming. However, I don't think supersedure often takes place at swarming time; it's generally after all swarming is over.

3. I never knew of trouble in that way.

4. The danger is rather the other way, namely, that enough workers may not stay down-stairs with the queen. Not a particle of danger that the brood will be neglected, for as soon as the story of brood is set over the excluder the bees will begin to climb into it.

Requeening—Danzenbaker and Sectional Hives—Pollen in Sections—Where Heartsease Grows.

1. For a bee-keeper having 15 colonies of blacks and Italians, and intending to double the number by fall, would you advise the purchase of a good breeding queen? Or do you think it would pay to requeen all colonies from the breeder, if purchased, by getting an increased yield of honey?

2. Are the queen-cells reared under the swarming impulse not better than those reared under the plan given to "Maine," page 153? Are the queens not likely to be more prolific?

3. What are your objections to the Danzenbaker hive? I find it much better for building up in the spring than the dovetailed.

4. What are your objections to the sectional hive, such as is used by Hand, Scholl, and others?

5. Are you ever bothered with pollen in sections? What do you do to prevent it?

6. Where does the heartsease grow in your locality, in waste places or in cultivated fields?

ANSWERS.—1. I would strongly advise purchasing a good queen to breed from, unless you already have such a one. If I understand your second question, you want to know whether you can buy a breeder, introduce one of the queens you rear from her into a given colony, and have a larger yield from that colony on account of the change. It wouldn't make as big a difference as you might suppose. In some cases it might even lessen the yield; for you might make a failure of introducing, and have the colony for a time queenless. In any case, it would be pretty well along in the season before you could rear and introduce a queen, and unless your harvest is late the bees for it would mostly come from the old queen. But the next season ought to show a difference.

2. I don't think there is today as much faith in swarming-cells as in former years. There was a sort of idea that swarming was natural, and that no queen was so natural or so good as one reared in a swarming-cell. But superseding is just as natural as swarming, and a man who allowed his bees to swarm naturally might have in his apiary just as many queens reared one way as the other. No, I don't believe swarming queens are better or more prolific than those reared by the plan recommended to "Maine." Of course, one could rear very poor queens by rearing out of season or from poor stock, but one should use the best stock and take the time when a good flow is on, or else feed. Doubtful, however, if feeding is quite so good as the natural flow.

3. One objection is that it takes too much time to handle; another that with a frame so shallow there is too much pollen in sections.

4. I have had no experience with sectional hives. It never seemed to me they had enough advantages to make me want to change to them. Possibly if I were using them entirely I might think them the best in the world.

5. I have never had much trouble with pollen in sections, provided they were over frames as deep as the Langstroth. I do nothing to prevent it except to have the sections entirely filled with foundation. I don't use queen-excluders, and I try not to have much drone-comb in the brood-chamber, so if I should use small starters in sections the bees would build drone-comb in them, inducing the queen to go up to lay drone-eggs, and that would help to bring up pollen.

6. In cultivated fields, mostly in corn-fields.

Honey in Brood-Nest—Unpainted Hives—Bee-Eating Birds.

1. I know enough of bees to be certain that to have the brood-nest half-filled with honey is *ruinous to the colony.* This language can not be made too strong. How can we best prevent it? I am not going to make suggestions. Treat it as fully as you well can. To me it is of more importance than to prevent swarming that we read so much about.

2. Is it true that you consider that bees do best in *unpainted* hives? I experiment a good deal and if the bees really do best in the hives not painted, I think I have only last week discovered one of the reasons. I have concluded that water-tight covers are responsible for keeping the hives wet. Any of the waterproof materials available for covers for keeping out rain, are cold, and by condensing the moisture from the bees inside the hives do more harm than all the rain that would fall on a properly-arranged porous outside covering. I made 2 covers of "paroid" paper roofing, laid on a dry-goods box 8 inches deep, and large enough to slip down easily over a hive. I put half-inch strips inside of the top of these covers, and on these laid paroid roofing, so as to leave a half-inch air-space under the cover. On Monday, May 4, ice formed and the lifting of the covers at noon you might almost wash your hands in the condensed water hanging upon them. There was a new cover of cotton and 3 of coarse woolen felt on one, and more felt on the other, and a ⅜-inch flat Root zinc-bound board over these on one under the paroid cover, and no board under the paroid of the hive with the most quilts. The middle of the ⅜ board was wet as if dipped in water, and the water of the upper quilts of the other might almost have been wrung out if I had tried to do it. I took off the 3 wet quilts and put a ⅜ board in their place, and laid ⅜ x ⅜ strips of pine on top and the paroid cover over all, and still the water hung on the inside of the paroid cover next day, when ice formed, although less than the day before. I contemplate using no paint on hives in the future, except on the corners, and none but gable covers of rough boards. If in a locality where two 10 or 11 inch boards can be got out of the board center of the log without the heart—that is, one board only about 2 feet wide out of the heart of each log—they will be much less likely to split with the sun, like the split shingles we used to get 50 years ago. A ¼-inch groove plowed ¼-inch on from the edge on the under, lower, projecting edge of the roof boards, ¼-inch deep, would carry off all drip.

3. Is the bird called the phebe, that in country places, persists in nesting near or under the cave or gable of a house a devourer of bees? A pair of them reared a family near my bees last year, and I believe killed thousands of them. A half dead or bare apple-tree near the line of flight of the bees was a convenient resting-place for the birds from which they seemed to take the bees as they passed, and the nest was not found until the young birds flew.

4. Does the chickadee also feed on bees? I have treated them as pets and fed them, sometimes out of my hand. They seldom come near in summer, but in cold weather when insects are scarce they come for food, and late in the fall, I noticed them, as I thought, picking up recently dead bees. Whether they killed any I was unable to determine.

5. Why is the American Bee Journal not printed in a uniform size with the best of the other bee-papers, which are all of convenient size? NOVICE.

ANSWERS.—1. You are quite right in your view, if you refer, as I suppose you do, to the early part of the season. Toward the close of the season it's a nice thing to have the brood-nest three-fourths filled with honey. I'm not sure that I know anything more than you do about keeping honey out of the brood-nest, for just now only two things occur to me that can be done to accomplish it. The first is to have plenty of room, easily accessible, outside the brood-nest, so the bees will not be forced to store in the brood-nest. Even with oceans of room outside of it, the bees will still store in the brood-nest if the queen fails to occupy it, so the second thing to do is to furnish each colony with a queen so vigorous that she will resist all encroachments on her domain.

2. I am inclined to believe bees do best in unpainted hives. One reason for that belief is that G. M. Doolittle thinks so. Besides, be-

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fore a furnace was in my cellar I found more mould in painted than unpainted hives. It may not have been because the hives were painted, but it looked that way. Your experiments with covers are interesting. Perhaps the principal moral in the case is to have the cover in some way made a non-conductor of heat, so that the moisture will not condense on the cold surface. A double cover with a dead-air space works well.

4. The kingbird is about the only bird generally believed to be a bee-kuler. and I'm not sure but in some places it is called phebe, although the true phebe is a different bird.

4. The chickadee is not considered an enemy of bees.

5. I don't know why the American Bee Journal persists in continuing its present size. The usual size of 9 x 6, or a little larger, is more convenient for handling when reading. The American Bee Journal is a trifle larger than 11 x 8, and 11 x 8 is 63 percent larger than 9 x 6. But the size of the American Bee Journal is comfort itself compared with that of two very excellent monthlies that come into my family, the Ladies' Home Journal and The Woman's Home Companion. They are 16 x 11, just twice the size of the American Bee Journal. In fact, most of the periodicals I take are worse in size than the American Bee Journal, the daily newspaper being worse than all the rest.

Although I do not like the size of these different publications, if it were left to me arbitrarily to decide whether they should be changed, I'm not sure that I should want to decide offhand without knowing more than I now do about such things. Time was when I did not like room taken up with advertisements. But I learned that these advertisements helped pay the cost, so that the more advertisements the more improvements could be afforded; also that I could have an excellent daily, thousands upon thousands of dollars being spent by each daily in gathering news from all quarters of the globe and in publishing articles by the ablest writers living, and all I had to do was to pay the mere cost of the white paper, the advertisers paying nearly all the expenses; so now I am delighted to see the pages of my bee-papers fat with advertisements. So it is possible that if I knew all about the matter I would not insist too strongly upon the change in size.

I've just been doing a little exact measuring, comparing the American Bee Journal with one of smaller size. The former is 11¼ x 8⅝; the latter just 9 x 6. The larger page has 69 percent more surface than the other. But the fair way is to compare the reading surface on each page. Leaving out the heading at top of each page, and measuring the part occupied by reading, I find one measures 9⅜ x 6⅞; the other 7⅛ x 4½. That makes the reading matter on one page occupy a little more than twice as much as the other. Now I don't know about such things, but I suspect that it doesn't cost twice as much to make the larger page as it does the other; and if we should insist upon the smaller size the publisher might say to us: "If you get the larger page, you'll have to do with less reading about bees in each number; or else the price will have to be raised." I suspect that the publishers think that the majority of their readers, instead of choosing either of these alternates would prefer to have the size remain unchanged. But if I misinterpret, no doubt the editor will set me right. Questions of this kind are hardly in my line, anyhow. [While this may be a legitimate subject for discussion, we doubt if it is worth while. Surely this Journal is a very convenient size compared with some other publications.—Editor.]

A Beginner and Foul Brood.

I have about 40 colonies of bees, bought last fall, and I never handled bees before. I realize now that I "bit off more than I could chew," when I did not start with far fewer colonies. Foul brood is spreading rapidly. Every fine, clear day as I inspect the hives to make necessary changes, more cases of the disease are found.

1. Am I spreading it, or are the bees?

2. Are the microbes in the propolis, and in the bits of comb around on the top-bars?

3. Is there any liquid disinfectant that I could dip the hive-tool in as I change from one hive to another?

4. How many days shall I wait after treating a colony by shaking before I can give honey or brood, if they really need it to keep from starving or dwindling on account of no young bees?

5. How long is a colony immune to the disease after starting all over with fresh foundation?

6. Is the wax worth rendering out of the combs of a foul-broody colony, or would it still contain the microbes?

7. Do you think I will ever get the upper hand of the disease if I am thorough and follow proper instructions in the matter? I am surrounded by those having several colonies that are completely cleaned out at times, but anything said by me to them is not heeded, but rather I am considered "nosey," being no more than half the age of any bee-keeper in the vicinity.

8. I refuse to sell bees to any one. Am I right in this? and do you think that some day prospects will be brighter for me than now? I will not be a "quitter." Iowa.

Answers.—1. The bees can spread it without any help from you, but unless you are exceedingly careful you will help spread it when you go to a healthy colony after having handled a diseased one.

2. It is possible that they may be.

3. Any strong disinfectant, such as carbolic acid, ought to answer.

4. I don't know; perhaps 5 days. There ought really to be no need of feeding, for the attempt at cure should be undertaken only at a time when honey is yielding.

5. Just as long as you are immune to the itch after being cured of that troublesome malady. In other words, if the cure of foul brood is complete today, and tomorrow the cured bees have access to some foul-broody honey, you may count on their being diseased again.

6. The wax is considered all right.

7. Others have surmounted the difficulty, why not you? With diseased bees all around you, you will need to be constantly on the alert, but out in Colorado some of the bee-keepers keep getting crops right along with foul-broody bees, making shaken swarms as part of the regular program in getting crops, and that shaking serves at the same time to hold at bay the disease, if not to eradicate it.

8. You are quite right to sell no bees while yours have the disease. Moreover, according to the foul-brood laws of your State, I think it is a criminal act.

Not Working in Supers—Best Hive—Italianizing Bees.

1. I have about 100 colonies of bees. About 60 are in log-gums, and 32 are in patent 8-frame dovetailed hives. I run the 32 colonies for section honey. There are 13 which have not gone into the super at all, while they seem to have a good number of bees. The other 19 are at work. Thirteen of them are swarms, and the swarms are all at work in the supers except 4, while the old colonies do not seem inclined to work.

2. When would it be advisable to take the brood-frames out and take the wax out and put in frames with foundation, or would it not be advisable at all? I have had frame-hives only 4 or 5 years, and have not paid much attention to them except to keep out the worms, and keep them from robbing.

3. What is the best hive to have the bees work in? Where will they do the best?

4. If I were to work for extracted honey, would they be more likely to work in frames? I never worked for anything but section honey in those hives, and I am making arrangements to give them all the attention needed, if I can find out what it is.

5. They are the native black bees. There is no other kind in this section of North Carolina. I would ask your advice about handling them to the best advantage. The honey-flow has been on in this section for 14 or 15 days, and is on at this date (May 12). North Carolina.

Answers.—1. There is probably nothing unusual about the way your bees take to the supers. The stronger ones are the ones to begin first, those that are weaker beginning later, if indeed they are strong enough to begin at all. When a colony swarms, the swarm is the part to count on for super-work, the mother colony being so weakened by the swarming that it can not be counted on to do any super-work, unless it be exceptionally strong. You will do well to have a "bait" in each super you put on; that is, a section partly or wholly drawn out. If you have none left over from last year, you can take a section out of a super where the bees are at work, and give to the colony you want to get started.

2. So long as the frames are filled with straight worker-comb, it is not advisable to replace them with foundation. If any combs are in any way objectionable (drone-comb or crooked) replace with foundation at any time when no brood is in the comb.

3. The particular style of hive does not make so much difference so long as you have movable combs. As you are already started with dovetailed hives, you probably can do no better than to continue with them.

4. Bees will begin work more readily in extracting frames than in sections, usually, but even with extracting-frames you can not expect a colony to store that has been heavily depleted by swarming.

5. It might be to your advantage to get in Italian blood. Even if there are none but blacks in your region, you can have an Italian queen sent you by mail any distance.

Does Shipping Bees Affect Their Queens?

On April 6, I loaded 9 of my best colonies of bees at Girard, Ill., and shipped them by emigration car to this point in Colorado. They were from Tuesday noon until Sunday night on the road. I came in the car with them, looking after them carefully all the way. They were packed in straw as described in "A B C and X Y Z of Bee-Culture." All stood the trip fine, and I had but few dead bees in any of the hives.

Upon unloading, after the bees had quieted down, I removed the wire-screens from the top, replacing the cap, and also cleaned the bottom-boards of dead bees, but did not disturb the frames. The bees were at work on dandelion in an hour. Being very busy for the first 10 days and the weather bad for a day or two, I did not bother the frames until the 15th day after unloading. The first colony showed considerable brood, but all capped high—drones in worker-cells. I first thought of laying workers, but in a moment I saw as pretty a leather-colored Italian queen as ever you would care to see. No. 2 showed exactly the same condition, except that it also had brood in all stages, but none capped but what was drone. No. 3 showed a very small percent of capped worker-brood, brood in all stages, and lots of drones in worker-cells. No. 4 showed the same as No. 3, except that it had a capped queen-cell, one about half completed, and one with an egg.

None of them showed over 20 percent of capped worker-cells and 80 percent drone until I came to No. 8. It showed 85 percent, or better, of worker-brood, and the balance of drones in worker-comb. In a corner of one frame where it was not filled out, they were *building drone-comb*, and the queen *laying in it*.

1. Will shipping bees cause all queens to be drone-layers?

2. Will the queens, as soon as they have time to rest up, become worker-layers?

3. Will a man be able to get sufficient fertile eggs from any of his queens to chance queen-rearing? I have been afraid to try, and so have ordered queens for requeening. I never heard of shipping bees injuring the laying qualities of the queens. Colorado.

Answers.—1. Your very full and careful description of this case makes me feel a good deal like throwing up my hands and saying I don't know anything about bees. I never heard of anything like it before. When queens are shipped by mail in cages, it is not a very uncommon thing that they are somewhat affected as to their laying, but I don't remember that I ever heard of a queen being made a drone-layer by it, and I don't think I ever heard of a queen being seriously affected when shipped in a full colony. Your bees have gone at it in a wholesale way, and I hope they are not to set the example for others.

2. I don't know. Queens have been known to change their minds in such cases; but I'm a little afraid. There is some hope, however, in the fact that only one colony seems to be trying to supersede its queens; for generally when a queen becomes permanently faulty in any way, the bees proceed to supersede her.

3. So long as *any* worker-eggs are laid there ought to be no trouble about rearing queens.

Hiving While Swarming.

I have just started in bee-keeping. I keep them in a large attic. Having only one colony, I would like to get another swarm started in swarming time. Can they be made to go into another hive while swarming?

Wisconsin.

Answer.—Of course a swarm can be hived in any hive, just the same as if the bees were on the ground instead of being in an attic. What you probably mean, however, is to have the bees enter the hive of their own accord. That can be managed, too, just the same as if the bees were on the ground. Have the queen's wing clipped. Then when the swarm issues

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catch and cage the queen, move the old hive to a new place, and set the new hive where the old hive stood. The swarm, having no queen, will be sure to return within a few minutes, and finding its old hive gone will enter the new one sitting where it left the old one. As the bees are entering the hive, free the queen and let her run into the hive with them.

Drone-Brood in Worker-Cells.

1. Is it common to find considerable drone-brood in worker-cells in colonies where all combs were drawn from worker foundation, this drone-brood being started in spring at the beginning of brood-rearing, and a considerable quantity of it being intermixed with the worker-brood?

2. I notice it in one of my 2 colonies, and it seems to be largely in the upper part of the comb. Is it on account of the foundation sagging, thus making the cells a trifle larger? The queen in this hive being of last season's rearing, would you think because of this drone-brood in worker-comb that she was inferior?

MAINE.

ANSWERS.—1. It is not common.

2. If cells in the upper part of comb are larger because of stretching of foundation, it may have some effect in preventing the queen from laying in these cells, and if she does lay in them the eggs may be drone-eggs. If drone-brood is found only in these enlarged cells, it ought hardly to condemn the queen. If, however, drone-brood is mixed in with the worker-brood, said drone-brood being in worker-cells of regular size, the probability is that the queen is beginning to fail, no matter what her age, and very likely it will not be long till she becomes a drone-layer.

Controlling Swarming—Average Per Colony.

1. How do you control swarming in your apiary? I know you would tell in your book, "Forty Years Among the Bees," I have a bee-book and also take two bee-papers, but I would like to know your own method, as I do not like to invest any more money in bees for a while, until I see how I am coming out.

2. How many colonies of bees have you?

3. Did you ever try the Heddon hive, or J. E. Hand's method of swarm-control? What do you think of either, or both?

4. What percent of your colonies swarm?

OHIO.

ANSWERS.—1. I give abundance of super-room, and as much ventilation as can be given without interfering with comb-building in supers. My bottom-boards give a space 2 inches deep under bottom-bars. A rack is put into this space during harvest that prevents building down and gives much air. During a good part of the season I shove the super forward so that there is a ¼-inch space at the back end between hive and super. About once in 10 days I glance through the hives to find whether cells are started. If not far advanced I destroy them. Sometimes they give up, but 10 days later, if they still persist, I take the case in hand. On page 70 of the American Bee Journal is given a way for treating them. If the queen is in any way objectionable, I kill her, and 10 days later give them a new queen.

2. Never had more than 400 colonies, and have now cut down so that counting nuclei and all there are today (May 25) bees in 141 hives, but hardly more than 130 colonies strong for the harvest.

3. I have had no experience with either.

4. Perhaps not more than one percent swarm and are hived regularly, but I don't know how many swarm out and return; perhaps 10 percent.

Dead Bees and Granulated Honey.

My neighbor has bees that are dying. The honey has granulated in the hive. What is the reason?

WISCONSIN.

ANSWER.—Without knowing more of the case it is hard to tell what is the trouble. It is possible they are starving, having eaten out all the honey except a little that remains in the form of dry granules. I have known bees to starve even when clover was in bloom, although not yielding. The remedy is to feed at once, either honey or sugar syrup. Sprinkling with water the combs with candied honey may do if there is honey enough left.

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Headquarters National Bee-Keepers' Ass'n, Oct. 13, 14, 15, 1908.

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Dandelion and Apple-Bloom.

Bees are hatching now. They have been out of the cellar for 3 weeks. A few dandelions are now open, and the bees are on the wing. There is no other bloom yet, although apples are nearly out. We hope for a week of this bloom.

T. F. BINGHAM.

Farwell, Mich., May 15.

Extracted Honey.

The past winter while in Duluth, Minn., I was confronted with something I had not expected to find. I was assured by a gentleman who keeps a large grocery store in Duluth, that the honey sold him by a Mr. Kimball, of Minnesota, was in eager demand; in fact, three times the amount was sold to that of comb. He sold the extracted honey at 30 cents per pound, and comb in bee-way sections at 22 cents per pound. In some of the other stores I found California extracted honey and comb honey in the plain sections selling at 25 cents per pound, with the preference for comb honey at the other stores.

I have reasoned that Mr. Kimball has been in the habit of extracting his honey late in the season, as recommended by the bee-papers. His honey no doubt is largely raspberry, and that it sells better than California's best, is welcome news for bee-keepers in this section.

I have read with much interest the articles on comb and extracted honey in the Bee-Keepers' Review, and conclude that I will produce comb honey, as I would rather do so. The new non-swarming methods enable us to do this with ease. By the way, Mr. Davenport, don't you think the pairing method and also the false-bottom methods described by the contributors of the American Bee Journal, together with the Dudley Tube method as shown by

American Bee Journal

Mr. Atwater in the Review, is equal to the pent-up secret you so ardently keep concealed?

I have discovered a magnificent bee-paradise by the blue expanse of the Superior, free from frost, where the lovely arbutus springing up in countless thousands, would gladden the poetic soul of Hutchinson, and make him think his bee-paradises in the other peninsula were "small potatoes." I have also discovered a grand market for honey, which may not be equal to Butte, Mont., but will suit me.

GEORGE J. MOLONEY.

Historical—Wintering Bees.

I have been a bee-keeper for about 40 years, and was a correspondent of the American Bee Journal about 1870. At that time I thought I knew it about all, but now I am only a student, and have spent much of the past winter in studying bee-books and papers.

Some time ago I purchased a copy of Dr. Miller's "Forty Years Among the Bees," and when I found, on page 20, my name enrolled among the early contributors whose articles gave him inspiration in the start of his useful career, it gives me a feeling that I have become lost in the race.

I now have only about 40 colonies, and after all sorts of experience I am satisfied to winter them on the summer stands. I remove the oil-cloth mats, or at least double them to the front, thus exposing the rear half of the frame-tops, lay a stick across the frames, and cover with porous matting or burlap. Then place on a super, and fill it with dry oat-chaff. Then if I have plenty of surplus supers I place another empty one under the hive-body. This keeps the cluster farther from the entrance, which I leave open its full length. This gives them more air, and prevents them from smothering, in case the entrances get stopped with snow. Then I protect them from the north and west winds with boards, cornfodder, or almost anything available, and nearly all come through the most severe winter all right.

Whenever I do lose one colony under this treatment I find it is invariably from dampness rather than from severe cold.

ISAAC F. TILLINGHAST.

Factoryville, Pa.

Early Swarms—Good Prospects.

I have had 2 fine swarms already—one on May 9th and the other on the 14th. White clover is blooming nicely and prospects are good for a fine honey crop.

Iola, Kan., May 18. T. S. EWING.

Bees Doing Well.

Bees are doing very well at present. I took off some comb honey May 15, and will extract some next week. We have not had a mesquite honey-flow in this locality, but hope for one, and a good one, too, in June. I had a fair crop of honey last year.

D. C. GULLEY.

San Antonio, Tex., May 23.

Good Honey-Flow from Fruit-Bloom.

We have had the best flow of honey this spring from fruit-bloom that it has been our good fortune to have for the last 25 years. It began on April 18 and continued 8 days, giving an increase in weight on the hive on the scales of 9½ pounds. This was followed by 8 days of north wind, which resulted in frost that has killed nearly all the fruit. The prospect for white clover is fair.

J. L. STRONG.

Clarinda, Iowa, May 6.

Heavy Loss of Bees in Vermont.

We are nearly out of bees in this section. I have driven to all yards within 10 miles in every direction, and I find 80 percent of the bees dead. Those colonies that had a few bees will not last long. I found only 2 fair colonies. Every one wanted to get rid of them. I found 8 colonies that I bought, but they were poor. I am not wise enough to find the trouble. Bees never went into winter quarters in better condition. They had lots of honey and bees, but they began to come out of the hives and drop on the cellar-bottom soon after being put in, and the honey seemed to go with the bees, and colonies with 50 pounds would come out about even. All of those that were left died early in the season.

My cellar stays at just about 42 degrees all winter. I put in 170 colonies. One hundred and ten hives had bees in them when I set them out, and there were some good colonies, but they went fast until I had a few colonies with about a pint to a quart of bees left, and it looks as if they must go within a few days. If it comes off warm perhaps 8 or 10 may survive.

It is quite a change within 30 years when this town had 2,000 colonies year after year, and now maybe 25 hives with a few bees in them. Now don't say it was poor honey, for I bought 40 queens last season, and fed them upon granulated sugar, and we had no honey-dew. Before I started out I had several letters from those wanting to sell bees, and when I went to see them they thought their bees all right, only to find 40 to 50 hives and combs, and not a live colony. They would say that there were lots of bees flying last week, and ask where I supposed they had gone. I don't see any dead bees in the hives.

C. M. LINCOLN.

West Rupert, Vt., May 11.

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S. E. MILLER, Bluffton, Mo.

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ISAAC F. MILLER, Reynoldsville, Penn.

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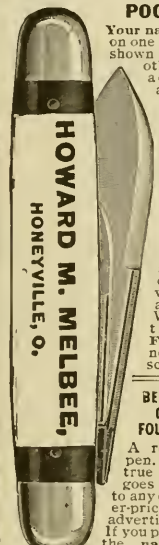

Your name and address put on one side of the handle as shown in cut, and on the other side pictures of a queen-bee, a worker, and a drone. The handle is celluloid and transparent, through which is seen your name. If you lose this knife it can be returned to you, or serves to identify you if you happen to be injured fatally, or are unconscious. Cut is exact size. Be sure to write exact name and address. Knife delivered in two weeks. Price of knife alone, postpaid, $1.25. With year's subscription, $1.50. **Free** for 5 new 50c subscriptions.

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A really good pen. As far as true usefulness goes it is equal to any the higher-priced, much-advertised pens. If you pay more it's the **name** you're charged for. The Gold Nib is guaranteed 14 Karat gold, Iridium pointed. The holder is hard-rubber, handsomely finished. The cover fits snugly and can't slip off because it slightly wedges over the barrel at either end. This pen is non-leakable. It is very easily cleaned, the penpoint and feeder being quickly removed. The simple feeder gives a uniform supply of ink to the pen-point without dropping, blotting or spotting. Every bee-keeper ought to carry one in his vest-pocket. Comes in box with directions and filler. Each pen guaranteed. Here shown ⅔ actual size.

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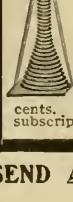
QUEEN-CLIPPING DEVICE



The Monette Queen-Clipping Device is a fine thing for use in catching and clipping Queens' wings. 4½ inches high. It is used by many bee-keepers. Full printed directions sent with each one.

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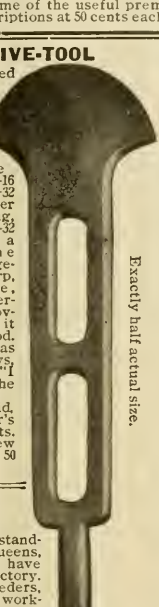

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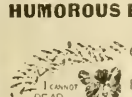

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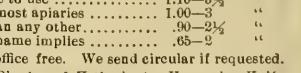

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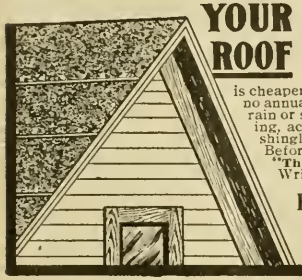

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Untested Queens after May 15th—Italian (warranted) 75 cents each; dozen, $7.00 Carniolan, Caucasian and other strains, untested, 75c each, or $7.00 a dozen.

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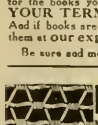

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When we announced the completion of the new edition late in 1907 there was a good deal of satisfaction to notice the big bunch of orders on hand, although we did regret the unavoidable delay in getting the books to some customers who had waited patiently for months. Over two thousand copies of this edition have already been sent out. We believe all urgent orders have been filled. We felt that the change of price to $1.50 postpaid might cause a little slackening in the demand. Not so, however, for in all our experience the orders never came faster.

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Gleanings in Bee Culture

If you haven't seen a late copy of Gleanings you can't tell from any brief description how really magnificent it is. There are many valuable departments, and our subscribers just at this season of the year are telling how much they appreciate the paper.

Each issue is very fully illustrated. The covers are done by the finest engravers in Chicago, and our writers are the best in the land. Besides dozens of writers of prominence whose names we can't even mention for lack of space, we have such men as Dr. E. F. Phillips, U. S. Dept. of Agriculture; Dr. Edward F. Bigelow, Associate Editor St. Nicholas; F. Dundas Todd, former Editor Photo-Beacon; Allen Latham, Connecticut, etc.

A trial of six months (12 numbers) costs 25c. If in addition to your own subscription you secure others for six months keep 10c on each one for your trouble. A liberal cash commission to those who do canvassing for us.

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For large apiaries, or where the honey comes with a rush and labor is scarce, you should investigate our power machines. A circular of these will be sent on request.

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Beeswax Wanted

Will pay, at all times, highest market price on receipt of goods.

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Office and Salesrooms, 2146-48 Central Ave. Warehouses, Freeman and Central Aves.

Honey and Beeswax

CHICAGO, May 23.—There is not much honey of any kind selling at the present time. A little of the best grade of white comb sells at 15 to 16c, but there is no volume to the business. Extracted is very much neglected as is usual at this time of the year. The manufacturing grades that sell at from 5 to 6c are in fair demand. Beeswax is steady at 30c for clean.

R. A. BURNETT & Co.

CINCINNATI, May 23.—The market on extracted honey is light. Light amber in barrels 6¼c, and California white sage 9¼c. Practically no demand for comb honey. Beeswax is selling at 33c.

C. H. W. WEBER.

ZANESVILLE, OHIO, May 23.—There is so little demand for honey at the present time that it is almost useless to quote the market. Best grades of comb honey bring at wholesale about $4.00 per case of 24 sections. There is a disposition on the part of some one-horse dealers to cut prices. A fair demand for the new crop on its arrival is anticipated. There is a little demand for extracted honey in retail packages. Not much demand for beeswax. Good wax brings on arrival 29c.

EDMUND W. PEIRCE.

KANSAS CITY, MO., May 25.—We have no comb honey to quote, but quote white extracted at 7 1-2c, and beeswax from 25 to 28c.

C. C. CLEMONS & Co.

LOS ANGELES, May 28.—The honey and beeswax quotations are the same as last month. I think, however, they will be considerably higher before long, as the crop will be very short in California.

H. J. MERCER.

DENVER, May 26.—Our market is now entirely cleaned up of comb honey, and the first consignments of the new crop should find a ready sale at good prices. We quote white extracted at 8 to 9c; light amber and "strained," 6½ to 7c. Clean yellow beeswax, delivered here, 25c.

THE COLO. HONEY PRODUCERS' ASS'N.

INDIANAPOLIS, May 23.—Almost no demand for comb honey at this writing, but jobbers have considerable stock on hand which is being offered at sacrifice prices to close out, as goods are partly granulated. Best grades of extracted is in fair demand with stock limited. It would be difficult to name prices on the expected new crop, but I predict a fairly good demand. Beeswax is steady at 28c.

WALTER S. POUDER.

TOLEDO, May 23.—The market on comb honey at this writing is pretty dead, there being little or no demand. We are offering fancy white at 16 to 16½c; no demand for amber and darker grades. Very little demand for extracted honey in tumblers for table use, but bulk extracted honey in barrels brings 7 to 7½c. Dark amber honey brings from 5 to 5 1-2c. Beeswax is firm at 26c.

GRIGGS BROS. & NICHOLS Co.

PHILADELPHIA, May 25.—Very little doing in the honey market for the last two weeks, with the prospect ahead of an unusually big crop in the East. Buyers are holding back for the new crop. Old crop of comb being packed away for fall trade. Not enough sales being made of comb honey to make any quotation. Extracted honey, Southern, arriving freely. Bright amber selling, in barrels, at 6c; white honey in 60-lb. cans, in a small way, 8c.

WM. A. SELSER.

NEW YORK, May 25.—Absolutely nothing doing in comb honey. A little demand for choice white in small quantities. There is more honey on the market of all grades than will be used up during the summer, and some of it, no doubt, will have to be carried over until the fall. What little is sold at present is not worth while quoting. Fancy grades are selling at about 14c. Dark grades not wanted at all. Extracted honey is in fair demand. Receipts are quite large, and the new crop from the South is now arriving. Some of last year's crop is still on the market, which, however, we think will be cleaned up before the new crop comes in. We quote: California white sage, 9c; light amber, 8c; amber, 6 to 7. New crop Southern in barrels at from 58 to 75c per gallon, according to quality. Beeswax, steady at 30 to 31c.

HILDRETH & SEGELKEN.

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For 12 years I have been improving the quality and efficiency of my queens, selecting and testing the best for breeders, until now I have bees which, as honey-producers, are excelled by few if any in the United States. They are **gentle, evenly marked** and **make beautiful comb and cappings.**

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No. 7

July, 1908

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Apiary of L. B. Elliston, of Bureau County, Illinois. — See page 200.

THE AMERICAN BEE JOURNAL

PUBLISHED MONTHLY BY
GEORGE W. YORK & COMPANY
118 W. Jackson Blvd., Chicago, Ill.

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1st.—To promote the interests of its members.

2d.—To protect and defend its members in their lawful rights.

3d.—To enforce laws against the adulteration of honey.

Annual Membership Dues, $1.00.

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Untested	$1.00	$5.00	$ 9.00	$ .75	$ 4.00	$ 7.50	Straight 5-band $10.00
Select Untested	1.25	6.50	12.00	1.00	5.00	9.00	Select Golden 4.00
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Untested Caucasian, $1.25 each; 6 for $7.00; 12 for $12.00.

Nuclei, without queens: 1-frame, $2.50; 2-frame $3.50; 3-frame $4.50. 1 Full Colony, 8-frame $9.00.
Select the queen wanted and add to the above prices.

NOTE

I have transferred to my son, Benj. G. Davis, my straight 5-band and Golden department, and in order to receive the promptest attention, all correspondence for these should be sent direct to him. He practically grew up in my queen yards, rears queens by my methods, has had charge of this department for years, and understands his business. No bee-disease.

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For a number of years we have been sending out to bee-keepers exceptionally fine Untested Italian Queens, purely mated, and all right in every respect. Here is what a few of those who received our Queens have to say about them:

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Nemaha, Co., Kan., July 15, 1905.

✣✣✣

GEORGE W. YORK & CO.:—After importing queens for 15 years you have sent me the best. She keeps 9 Langstroth frames fully occupied to date, and, although I kept the hive well contracted, to force them to swarm, they have never built a queen-cell, and will put up 100 pounds of honey if the flow lasts this week. CHAS. MITCHELL.
Ontario, Canada, July 22, 1905.

✣✣✣

GEORGE W. YORK & CO.:—The queen I bought of you has proven a good one, and has given me some of my best colonies. N. P. OGLESBY.
Washington Co., Va., July 22, 1905.

✣✣✣

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Marion Co., Ill., July 13.

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American Bee Journal

QUEENS

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Prices after July 1	1	6	12
Select queens	$ .75	$4 00	$7 00
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Queens now promptly by return mail. Safe delivery of queens guaranteed. Nice, fancy white clover comb honey now ready at $3.50 per case in not less than six case lots, 24 sections to case.

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Choice home-bred and Imported stock. All queens reared in full colonies.

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One Untested Queen . . . . $ .75
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One C'b Nucleus (no queen) . .80
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One Tested Caucasian Queen 1.75

Safe arrival guaranteed. For prices on larger quantities and description of each grade of queens, send for price list.

All queens by return mail. A few hundred pounds of **Comb Foundation.** Send for sample and price.

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Two cans to the case. Both cans and cases in A-I condition. Price, 30c per case in lots of 100 cases or more. Write for prices.

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Untested queens	$1.00	$5.00	$9.00
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Borodino, Onondaga Co., New York.

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FOR SALE 1 10-in. Foundation Machine; 1 Honey-Extractor; 8 Colonies Italian Bees and 2 cols. Hybrids in Langstroth Hives, 15 Empty Hives; 75 Brood and Store Combs; 10 lbs. Foundation. Address,

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As we have a good stock of these books on hand, **we can fill all orders by return mail.** This is the time of year to read up on bee-keeping. Better send us your order at once for Dr. Miller's book, and study it carefully so as to make the most of the bee-season. Address,

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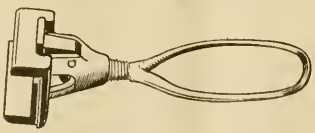

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GEORGE W. YORK, Editor | CHICAGO, ILL., JULY, 1908 | Vol. XLVIII—No. 7

To Avoid Swarming as Much as Possible

Run for extracted honey, not comb.

Use large hives, giving room, both in brood-chamber and in supers.

Give abundant ventilation. This by having a large entrance, and also ventilation at each story by shoving it backward or forward so as to make a space of ¼ inch for ventilation.

Locate hives where they will have the full benefit of every passing breeze.

Shade the hives.

Breed from stock showing least inclination to swarm.

These are some of the things that will help to minimize swarming.

Introducing Queens

One of the troubles, at the same time one of the charms of bee-keeping, is that varying circumstances keep one on the alert to meet them with varying practises, hence varying views that keep interest constantly alive. Some would prefer to have set rules by which one could always be governed, but many would not like such dead-level monotony. One of the things that does not seem to be settling rapidly into dead-level monotony is the introduction of queens. For one thing, there seems to be a decided difference of opinion as to the best time for the removal of the old queen. Replying to a question, the British Bee Journal says:

"It was a mistake on your part to put the caged Italian queen beneath the quilt of a strong colony of bees and leave her there from Wednesday to Friday. The very fact of a laying queen being at work below would so irritate the bees against the stranger as to cause her rejection. Had the laying queen been removed, and the colony rendered queenless before introducing the Italian, the chance of her being accepted would have been far greater."

In this case, leaving the old queen undisturbed in the hive for 2 days after the caged new queen was put in is condemned as wrong practise. And yet that is the very thing that E. T. Abbott, on this side, has so strenuously urged, and there seems a growing inclination to accept the Abbott plan.

The introduction of virgins is well known to be more difficult than the introduction of laying queens, yet what is called the dual introduction of virgins in fertilizing-hives seems to be very successful. A caged virgin is put in while a previous queen is still there, remaining a prisoner until the first queen is laying and removed, when the workers are allowed to get at the candy and release the prisoner, perhaps at the same operation another virgin being imprisoned. In this way each virgin in her turn may be imprisoned a day, a week, or more, but always is put into the hive while her predecessor is still there. In this plan the virgin always takes the place of the laying queen, and one would think a laying queen would be more readily accepted than the virgin. Yet what one would think does not always turn out to be the correct thing.

In the case of our British friends, nothing is said about what was done when the old queen was removed, whether the new queen was at once released upon the combs or the bees allowed to release her in the usual way by eating out the candy. Mr. Abbott says the queen may be let loose on the combs a very few hours after the removal of the old queen; but the general practise probably is to allow the bees to free the queen by eating out the candy, just exactly the same as if the old queen had been removed before putting in the new one.

Virgin Swarms

These are very common, so it is not strange that sometimes there is confusion as to what is meant by a virgin swarm. Not unnaturally, the beginner is likely to think that a virgin swarm is one that has a virgin queen. Second, third, and indeed all afterswarms have virgin queens, but an afterswarm is not a virgin swarm. It sometimes happens that a prime swarm, especially one coming early in the season, itself sends forth a swarm the same season, and such a swarm is a virgin swarm. As the old queen issues with a prime swarm, it naturally follows that a virgin swarm does not have a virgin, but an old queen.

Requeening by Unqueening

It has been held by some that when a queen is removed from a colony, the bees are in such haste to rear a successor that they select for royalty larvæ too old for best results. For 25 years S. D. Chapman has been re-queening his colonies annually by merely removing the old queen a week before the close of the honey harvest, leaving to the bees entirely the task of rearing a successor, and the question being raised as to whether by this means his bees have not deteriorated, he answers, in the Bee-keepers' Review, "No, certainly not; why should they?

"If we condemn the cells started by my plan, we must condemn every cell that is started by those colonies that are superseding their queens—they are alike in every respect. The desire to swarm is absent in either case, and we *do not want it present.*

"In requeening a whole yard, my plan has this advantage that all queens are reared in *heavy* colonies; and when we take away the queen from a colony, the bees start less than one-third the number of cells they do in the colony that swarms; that is, where we do not take away the queens till the latter part of the honey flow."

Those who charge the bees with such poor judgment as to select too-old larvæ

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for queen-rearing say that the right way is to destroy the first lot of cells started so that the bees may use beter judgment the second time selecting, after they have got over their hurry. Possibly without having at all in mind such teaching, Mr. Chapman butts up against it in the following manner:

"Nature has so ordered that the best queens a colony can provide are those hatched from the *first cells started;* seemingly, they are better fed, more vigorous, and give better results. Such are the queens we have at the head of our colonies."

Supersednre the Regnlar Program

Supersedure is often spoken of as if something exceptional. A little reflection will show any one that in the ordinary course of nature there is nothing exceptional about it, but that *every queen is superseded.* Probably in the large majority of cases this supersedure takes place toward the close of the honey season.

Caucasian Bees

Testimony concerning the character of Caucasian bees still remains conflicting. F. R. C. Campbell, in Gleanings, says that his 2 colonies of Caucasians do not gather as much honey as Italians and hybrids, seeming to spend their time daubing propolis. In contrast with this, E. A. Morgan says, in Gleanings:

"I wish to report that we have 35 colonies, also from Washington, D. C., that put up 160 pounds of fine section honey per colony the past season, besides filling 75 pounds in the brood-chamber at the close of the season, which was one-third more in every case than the best Italians did. Eighty colonies of Italians are in the same yard with them. Our Caucasians filled the entrances with propolis at the close of the honey-flow, but carried none into supers. The section and fences came off as white and clean as when put on, needing no scraping."

The latest complaint against the Caucasians is that they are excessive breeders of drones, managing to rear them even where frames are filled with worker foundation. Editor Root says:

"At a yard where we have mostly Caucasians and some Italians, the Caucasian colonies will rear a hundred drones to the Italians one. This simply means that the Caucasians will run out the Italians in very short order; for if there were a hundred Caucasian drones flying to one of Italian, the whole locality would run to the black strain of bees rather than to the yellow."

The latest bulletin as to the Caucasians at Medina is also found in Gleanings, as follows:

"We are having quite a time in keeping our Caucasians under control at our south yard. They rear drones as fast as we can trap them and destroy them, even when they have nothing but worker comb. We fear the consequences of letting them get the start of us, if it should develop later that they are not desirable. What do we think of them at this time? We don't know. They are good honey gatherers apparently, but are great propolizers and not as gentle as they might be. The first importations seemed to be much quieter than the later ones."

On the whole, it appears that care should be exercised in experimenting with this race of bees, and for beginners it may be the safer thing to adopt the better known Italians.

Strengthening Weak Colonies in the Spring

The Alexander plan, putting a weak colony over a strong one, seems to succeed with some and not with others. That veteran, M. M. Baldridge, reverses the plan, putting the strong colony over the weak. Here is his letter:

ST. CHARLES, ILL., June 5, 1908.

Set the weak colony *under* the strong one. Do this at sundown and with no wire-cloth between them, simply the zinc excluder. Do this when a flow of honey is in the field from dandelion, fruit-bloom, or clover, and do not disturb the bees in the weak colony with smoke. It is not necessary to use much smoke on the strong colony, just enough to make the bees leave the bottom-board while placing it over the weak one.

This is a far better plan than setting the weak colony over the strong one. That is, the weak colony will become a strong in less time. The bees in the top hive can leave the lower one without coming in contact with the bees therein, and when they return loaded with honey, they will deposit more or less of it, and likewise the pollen, in the weak colony, and there will be no fighting with the bees or queen. And when the young bees in the top hive go out to play, more or less of them will remain in the lower hive to feed the brood. By this means the weak one will be built up much more rapidly than when set on top of the strong colony. I know this is true for I have tried both plans for the past 3 years. But I do not like either plan in case there is foul brood in the apiary. Should there be any foul brood in the lower hive, the upper one is very likely to become diseased also as all, or nearly all the honey in the bottom hive will be taken out by the bees and removed to the upper colony.

The plan I prefer, to guard against the spread of foul brood when any exists in the apiary, in strengthening the weak colonies, is to wait until there is a flow of honey and make an exchange of locations. That is, set the strong colony on the stand of the weak one, and the weak colony on the stand of the strong one. I do this generally in the forenoon, and as soon as the bees begin to come in from the fields with honey. There will then be no fighting and no loss of queens. This plan I have pursued for more than 20 years, and always with good results. I am not aware that I have ever lost a queen by so doing, nor had any fighting among the bees. Sometimes I make the exchange in the afternoon when the young bees are at play.

M. M. BALDRIDGE.

As to one point Mr. Baldridge makes no mention. Some may understand that the strong colony is taken from its place and set over the weak colony without removing the weak colony from its place. That would cause all the field-bees of the strong colony on their first flight after the change to go back to their old location, joining the nearest colony or colonies, thus seriously weakening the strong colony. Instead of that he probably takes the weak colony from its place, puts it on the stand of the strong colony, and then the strong colony on top.

Mr. Baldridge gives some reasons why his plan should succeed, and it has a good look. Operating at a time when honey is yielding, the bees thus good-natured, and when flight ceases for the day, so that there is little chance for mingling of bees for several hours, are no doubt important factors.

The plan of making the strong and weak colony exchange places has been reported by others as resulting in the loss of queens. Possibly it may make a decided difference whether the change is made in a time of dearth or of plenty.

Nomenclature of Queens

"Tested" has come to mean, by common consent, unless otherwise modified by some adjective, a pure queen and nothing more; that is, pure Caucasian, pure Carniolan, pure Italian, etc. It takes about 30 days to test her for this purpose. A select tested queen means one that is of good size and color, fairly prolific, with good-looking pure bees. "Extra select tested" means that she is extra in the qualities named. "Breeding queens" takes in the next higher grade, and has reference to a queen that has been tested for queen daughters as well as bees that she can produce. A queen that will not produce a fairly uniform marking of queens, whose bees do not show some of the qualities of the bees of their grandmother, can not be used for a breeder. She may show up well herself; but it is what her daughters will do that determines her value to the queen-breeder and to the man who would buy her. Then the word "breeder" is further qualified by the phrase "select" and "extra select." Extra and extra select take in all the desirable qualities usually named for a good strain of honey-gathering.—Gleanings.

This is an unusually full and satisfactory statement as to the terms in common use regarding queens. However, it still leaves opportunity for the beginner to ask some questions. What is meant by a "pure queen?" It means something more than is meant by a "pure" specimen of any other stock. A mare may be pure if she raises nothing but mules. Not so with a queen. Her progeny, as well as herself, must be pure if she is to be considered pure. In other words, she must be of pure blood and mated with a drone of pure blood. Hence the 30 days of testing, said testing being merely to see whether her worker progeny show by their looks that she is purely mated.

That 30 days, if counted from the time the queen emerges from her cell, gives scant opportunity for the testing, for if from that we deduct 21 days, the time from her first laying till the first worker emerges, it leaves 9 days as the age when the queen must commence laying. Certainly 30 days is altogether too short a time for a select tested queen, for there must be some added days to

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find out if she is "fairly prolific." Indeed, it may take a good many, for generally she is in a nucleus where she has not very full opportunity to show her prolificness.

The term "untested queen" is left unmentioned, and more is required in an untested queen than might appear on the surface, for an untested queen must be from a mother of pure blood, and she must be a laying queen.

Artificial Heat for Extracting

It has been the general practise to extract at different times throughout the course of the harvest, but there seems a growing tendency to wait till the harvest of the honey. Another advantage is that the work can be done more leisurely than when the time is fully crowded with other work. But to extract when the weather is cooler, and when the large mass of honey is no longer kept warm, is quite a different thing from extracting combs that are fresh from the hives on a hot day. To overcome this difficulty artificial heat may be applied, and the combs may be heated to such a degree that the honey shall be even thinner than when taken fresh from the hive on a hot day.

W. Z. Hutchinson has been following this plan, and says, in Gleanings:

"The first year we warmed up the honey with a base-burner hard-coal stove. This gives a very even, steady, desirable heat; but it is too expensive, and not very practical, to have a hard-coal stove at each apiary in the woods of Northern Michigan; so, last year, we used a Perfection oil-heater, costing about $5.00, capable of burning a gallon of oil in about 8 hours, although much less can be burned. This is the first oil-burning stove using a wick, that I ever saw that could not be made to smoke. It has a cylindrical wick, and just above the wick is a round plate of iron called the 'flame-spreader,' and the wick is turned up until it strikes this spreader, when it can go no higher, and it won't smoke, and can't be made to do so.

"One end of the honey-house or cellar is partitioned off, making an 'oven,' as we call it, large enough to hold 50 or 60 supers. We fill this up at night, for instance; light the stove before we go to bed, turning the wick up part way so that the temperature in the upper part of the room will stand at about 100 degrees. In the morning we refill the stove, turn it on full blast, and go to extracting, taking the first supers from the top of the room. As some of the piles are lowered, more supers are taken from other piles and added to these, thus bringing more honey up into the heated 'zone.' As fast as there is vacant room, more supers are brought in; and a sort of routine is followed whereby one always has hot honey to work on while more is heating.

President Hilton Wins Medal

Mr. Geo. E. Hilton, president of the National Bee-Keepers' Association, who lives in Fremont, Mich., received, on June 15, a gold medal which was won by him on his exhibit of honey at the Jamestown Exposition last year. The medal is worth $175. The award was made on the best quality of honey, and Mr. Hilton competed for the medal with the honey-producers of the United States. The American Bee Journal congratulates Mr. Hilton upon his success in the medal competition.

Seventh Annual Illinois Report

The 7th Annual Report of the Illinois State Bee-Keepers' Association has been ready for delivery for nearly a month. The cloth-bound copies go only to the members of the State Association, but paper-covered copies can be had by sending 25 cents in silver or stamps to Secretary Jas. A. Stone, Route 4, Springfield, Ill. The book contains over 130 pages, and also has the reports of the Chicago-Northwestern and the National conventions, held in 1907.

Missouri Bee-Keepers' Official Organ

Colman's Rural World, a weekly agricultural publication in St. Louis, Mo., has been selected as the official organ of the Missouri State Bee-Keepers' Association. It contains the proceedings of the last State convention at Carrollton, Mo., May 26 and 27. A special price of 50 cents a year (52 copies) has been made to bee-keepers. When sending the 50 cents be sure to mention that you are a bee-keeper, else you may not get the special rate.

Ex-Governor Colman, editor and proprietor of Colman's Rural World, takes great interest in bee-keeping, and is making "The Apiary" an important department in his paper. It is one of the best papers devoted to general farming. Every bee-keeper in Missouri should now subscribe for it.

Washington State Bee-Convention

We have received from the Secretary, Mrs. L. R. Freeman, a brief report of the last meeting of the Washington State Bee-Keepers' Association. Mrs. Freeman says their organization is the first to ask for a Board of Agriculture, and to endorse the Good Roads movement; that is, that they have taken the initiative, and while their Association is not large they are progressing very nicely. She reports the spring as being very cool and the weather decidedly against a heavy flow of nectar very early in the season, but hopes that the weather may change and the crop be much larger than anticipated.

The bee-keepers of the Pacific Northwest are also planning to have a good exhibit at the Alaska-Yukon Exposition, in Seattle, in 1909.

Mrs. Freeman also reports the death of Mrs. Abbie Parrish, of North Yakima, who was a thorough and expert bee-keeper, also a valuable member of the State Association. She is survived by a husband and two children. She had been a resident of the Yakima Valley for over a quarter of a century.

It was decided to have the annual basket picnic of the Washington State Bee-Keepers' Association, July 4, at the State Fair Grounds. All bee-keepers are invited to participate. Two committees were appointed—one for program, consisting of Anson White, J. W. Thornton, Isaac Hayes, and Mrs. L. R. Freeman; the other committee, on arrangements, consists of Mesdames J. W. Thornton, J. P. Berg, and F. G. Orr. These ladies will receive the picnickers at the grounds, take full charge of the baskets, and make everybody welcome.

The Detroit National Convention

Secretary Hutchinson is planning some excellent things for the National Bee-Keepers' Convention to be held in Detroit, Mich., Oct. 13, 14 and 15, 1908. He recently sent us the following, which will be of great interest to all who attend:

Diseases of Bees to be Discussed.

One of the most serious disasters that can visit an apiary is that of foul brood, either American or European. All should be constantly on the watch for it. Every bee-keeper ought to be able to recognize it instantly, and know exactly what course to take when it is found. Not only is foul brood a great misfortune to the owner of the diseased colonies, but it is a serious menace to surrounding apiaries.

For these reasons, one whole session of the National Convention is to be devoted to the discussion of Diseases of Bees. Dr. White, of the Apiarian Department at Washington, has consented to take up the bacteriological feature; show us how cultures are made and the diseases propagated, etc. Some one of the inspectors will tell us how to detect the diseases, another how to treat them, etc.

The Bee-Keeping of Hawaii.

We bee-keepers of the United States might be surprised if we knew all about the keeping of bees in Hawaii. It seems that Uncle Sam thought it of sufficient importance to send a special agent, our friend, Dr. Phillips, of the Apiarian Department at Washington, out to these islands to investigate this industry. He spent several months studying the industry, and we have been fortunate enough

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to secure his promise to tell us, at the coming National convention, all about the bee-keeping of Hawaii, illustrating his talk with stereopticon views taken while at the islands. Those who are fortunate enough to be present may expect a treat.

LIVE BEE DEMONSTRATIONS.

Few things will attract and hold a crowd better than the handling of bees in a wire cloth cage. A good demonstrator can do very effective missionary work at such times, or, if at fair, large quantities of honey may be sold at such demonstrations. Of course, to a bee-keeper, the handling of bees is no novelty, but not every one of us knows how to handle bees in a cage in the most successful and agreeable, yet novel manner, hence it will be interesting to know that E. R. Root has consented to bring a cage to the National convention, and give an actual demonstration of how he makes this exhibition.

Surely there are three very interesting things, and especially the latter cannot be printed on paper so that those who remain at home will get a very clear idea of it. Better arrange to be at Detroit, if at all possible. Remember the place and time—Detroit, October 13, 14 and 15, 1908.

Lecture on Bee-Culture in Cincinnati

John C. Frohliger, a well-known bee-keeper of Cincinnati, delivered a lecture on bee-culture on May 29, 1908, under the auspices of the Linwood Improvement Association. His lecture was illustrated with stereopticon views of scenes incident to bee-life, the views including apiaries in Mexico, Peru, Algeria, Denmark, etc. Ancient and modern bee-keeping were touched upon, and the methods of handling bees were explained. The admission was entirely free, as it was given for the benefit of the members and friends of the Linwood Improvement Association. From the circular we received announcing the above pleasant affair, it appears that Mr. Fred W. Muth, one of the leading bee-supply dealers of Cincinnati, was instrumental in making the occasion a success.

"Odessa Apiary"

The picture I send you is part of my Odessa Apiary which is located near Williamsport, Pa. The man in the picture is Charlie Propst, hunting for a queen. I have 50 colonies of bees, all Carniolans bred from imported queens.

P. H. PROPST.

"ODESSA APIARY" OF P. H. PROPST.

Apiary of Freeman Davis

The picture I send was taken just as the peach-bloom was commencing to open. I packed 19 colonies for winter last fall, and all were alive this spring, but 3 were queenless. The two piles of hives without tar-paper wrappings are empty hives. The 2 hives in the foreground and the second beyond the peach-tree are 2-story hives. Every spring since I have kept bees I have had to feed more or less, so I had these store their honey in full-sized frames to draw on this spring in case of need. It has not been needed, so they have "millions of honey at their house" and are strong, powerful colonies. The hives are all home-made. The covers are various patterns, some flat, some air-spaced, and covered with tin, others with neponset, and some just plain wood. It was a chilly morning when the photograph was taken, and no bees were flying, so the photographer, who is something of an artist, drew some bees on the negative.

In the background you are looking over Salt River Valley about a mile away.

The two little girls (my niece and my daughter) brought Kitty Blue out to get her in the picture, but at the critical moment she got partly behind a hive. You can see her back behind the third hive from the front.

Last February, when the snow was on, I stood boards in front of the hives to keep the bees from flying out to their death. I utilized anything that came handy, and among the rest got hold of an old, discarded washboard. After the photo was finished we discovered it occupied a very prominent place in the picture.

My little son on the right, takes a great interest in the bees. He has started a bee-yard several times with bumble-bees in fruit-cans, but they decline to stay.

We are all tenderfoots, having kept bees only 4 years. They have all been bad years for bees. The only good flow we have had in that time was last fall from Spanish-needle and heartsease. We got about 600 pounds, which made us step high and feel very important.

We have our hives and supplies all ready, and are in hopes that this will be a good honey-year.

FREEMAN DAVIS.

Center, Mo., May 27.

APIARY OF FREEMAN DAVIS, OF CENTER, MO.

The Apiary of L. B. Elliston

This apiary is located at Princeton, Bureau Co., Ill. His apiary was begun 21 years ago by the purchase of one colony, which was increased, by natural swarming, to 242 colonies. This increase

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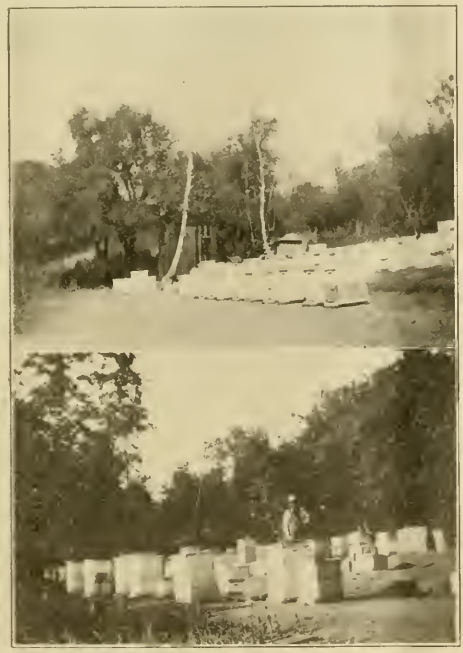
was made within 10 years from the beginning. At the end of each honey season, the yard is culled down to 165 colonies, the honey in the brood-frames either being extracted or kept in the combs for feeding purposes the following spring, if needed.

This yard is run entirely for the production of comb honey. The bees are wintered out-doors on the summer stands with complete success, rarely losing a single colony.

The people represented in the picture are R. A. Elliston and family.

Apiary of J. W. Griffin

I am sending you a few small photographs of part of my apiary, located in the hills northwest of this city. The



DECEMBER AND JUNE VIEWS OF THE APIARY OF J. W. GRIFFIN.

bare poles or young trees in the upper picture, taken Dec. 15, are sycamores, and are shown in full foliage at the left in the lower picture, taken June 15. The tree back of the honey-house in the upper is a live-oak.

I breed only the 3-banded Italian stock, and believe that they are the best all-purpose bees. The honey-yield in Southern California will be light in some parts, while in other sections there are promises of a fair yield.

San Diego county is ahead so far, especially in the mountain sections, where the bees are at this date rolling in the honey from the deer clover or mountain alfalfa. This honey is water-white, and ranks next to the black sage honey.

Black sage is not yielding any great amount, and honey from that source will be scarce this year.

J. W. GRIFFIN.

Los Angeles, Calif., May 29.

What Others Say of Us

The following paragraphs appeared in Gleanings in Bee Culture for July 1, 1908, for which we wish to express our appreciation:

THE AMERICAN BEE JOURNAL.

We take great pleasure in giving a few words of commendation of the "old reliable" American Bee Journal, whose home is 118 West Jackson Blvd., Chicago, Ill. As the mother journal of American bee-papers, it is only right and proper that we should say a word in praise of our old friend. Recently it has taken on a new lease of life by reducing its subscription price to 50 cents a year, and becoming a monthly magazine instead of a weekly newspaper. Considering the low rate of subscription we can not see how a bee-keeper can afford to pass it by when making up his list of periodicals for the family library table. It has a strong corps of editors—men and women who are experts in the science of bee-keeping, and who know how to write interesting matter. As a further inducement to subscribe, the editor promises to give an untested queen to all those who send in their subscription now, at the rate of $1.00 for the two.

The American Bee Journal has a record that carries it back into the misty past, when bee-keeping was in its infancy and there were only about three bee journals published in all the world, whereas there are more than eighty now. At the helm it has Mr. George W. York, who does all in his power to turn out a clean up-to-date bee magazine and thus sustain the best traditions of the "old reliable." We know he is always ready and willing to accept suggestions for the improvement of his journal; therefore the future policy of the paper lies largely with bee-keepers themselves. We therefore suggest that you remember the American Bee Journal when making up your list of papers for which you intend to subscribe.

Death of John Misner

After a lingering illness of several months, John Misner, of Fairfield, Iowa, passed away. He had kept bees on the same farm for nearly 40 years, producing tons of honey. Mr. L. W. Elmore, an old neighbor, sent us a notice of his death. Mr. Misner was a good friend and neighbor, and will be greatly missed by those who knew him best.

Colorado Interstate Fair Premiums

The Colorado Interstate Fair and Exposition will be held in Denver, September 7 to 12, 1908. The Apiary Department will be superintended by W. L. Porter, 3522 Alcott St., Denver.

The Colorado Honey-Producers' Association, located at 1440 Market St., Denver, will receive and place on exhibit all entries shipped to them by bee-keepers who will not be at the Fair.

Following are premium offers on bees, honey, etc.:

Italian bees and queen in single-comb observatory hives	$ 5	$3	$2
Carniolan bees and queen in single-comb observatory hives	5	3	2
Caucasian bees and queen in single-comb observatory hives	5	3	2
Largest and best display of bees of various races in observatory hives	10	5	3
Largest display of queens of various races in mailing cages	3	2	1
Best display manipulation of bees	10	5	3
Best case of white comb honey	3	2	1
Best case of light amber comb honey	3	2	1
Best and largest display of comb honey	10	5	3
Best display of special designs in comb honey	3	2	1
Best Dozen jars of white extracted honey	3	2	1
Best dozen jars of light amber extracted honey	3	2	1
Best and largest display of extracted honey	3	2	1
Best display of extracted honey in granulated form	3	2	1
Best 10 pounds of yellow beeswax	3	2	1
Best and largest display of beeswax	3	2	1
Best display special designs in beeswax	3	2	1
Best display of honey-producing plants, mounted	3	2	1
Best display of fruits preserved in honey	3	2	1
Largest and most attractive display in department	20	10	5

For entry blanks, complete premium lists, or any other information, call on or address G. C. Fuller, Acting Secretary, 416 Tabor Opera House Bldg., Denver, Colo.

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Conducted by EMMA M. WILSON, Marengo, Ill.

White Clover and a Banner Year.

Whether because of the mild winter, or for whatever cause, there was a great show of clover plants this spring in the vicinity of Marengo. There seemed little doubt that there would be an unusual amount of white-clover bloom, but the question was, "Will there be any nectar in the bloom?" For there have been too many years when clover bloomed enough, but for some reason there seemed to be nothing in it for the bees. When the first blossom was seen, we awaited the next ten days with great anxiety, for as a rule, just about 10 days after the very first blossom is seen the bees begin to store from clover, if they store from it at all. When the 10 days were up, how we did rejoice! There were unmistakable evidences that the bees were gathering from white clover. And in spite of cool days and still cooler nights, the bees kept on the gain.

The sight of the stretches of white blossoms is enough to gladden the heart of any bee-keeper. White clover, the whitest kind, in front, to the right, to the left, white clover everywhere. It is not only a little ahead of any former year, but away ahead. In the third week of June the weather has changed from very cool to very hot—those hot nights when one can hardly sleep for the heat—and that seems to just suit the bees. They come home so burdened that they drop down in front of the hives, on the hives, and for some distance around on surrounding objects, sitting motionless for some time before attempting to rise again. Unless there is some unexpected change in the program, this is likely to be one of the banner years.

Queen-Rearing for Women.

I have been rearing queens for the last 10 years, at first for my own use and then selling a few. About 3 years ago I sent for the book, "Modern Queen-Rearing," and a queen-rearing outfit, and have reared and sold some very nice queens. The small nuclei boxes are home-made, each holding 2 Danzenbaker sections fastened to the cover. We always have some partly filled sections that we can use in this way. This saves the time, trouble, and expense of having the small frames filled by the bees. It does not pay to try to start these small boxes too early or before there is a honey-flow; and a good teacupful of bees should be used in each one. I have some of these boxes hung in a hedge. Of the first lot of queens introduced I lose very few. It is not so easy to introduce the second queen.

The plan of caging a virgin queen for a few days in the nucleus before taking the laying queen away is but a beautiful romance. How I do wish it would work! but I find her dead nine times out of ten. I have the best luck with the ripe cells put in a few hours after taking the laying queen away; but I use what I have at the time. If I have virgin queens in the nursery cages I put them in just at night of the day I take the queen away.

However, I introduce the second queen to these little boxes; and when I take these out I let these boxes go for the season, as they will all be robbed out as soon as the honey-flow ceases. I have always lost about half of this second lot. They may be too near the old hives; but it is a very handy place to have them. We have a number of dovetailed hive-bodies with a division-board in the center, and an opening at the back of one side. This makes two three-frame nuclei. I hardly ever lose a queen from these. They are the best for early and late queens.

I hear some one ask if it pays. If you count the satisfaction of being master of the situation, the benefit of outdoor exercise, and if you love to work with your bees, it pays well; but if you are looking only for the dollars and cents you would better let some one else rear the queens, and run your bees for honey.

MRS. J. W. BACON.

The foregoing appears in Gleanings in Bee Culture. Mrs. Bacon is one of the very few of the sisters who rears queens to sell, or is she the only one? Her closing paragraph is not likely to induce many to follow her example, for unless it be that master-of-the-situation argument, all the inducements belong equally to the honey-business, with more money.

Her experience with the dual plan of virgins in nuclei is entirely different from ours. She finds the virgin dead in the cage 9 times out of ten. Strange! We never found one so. What can make the difference? The bees can not get at the virgin to harm her while she is in the cage, and she can help herself to the candy whenever she feels like lunching. Possibly Mrs. Bacon does not use a provisional cage. But are there not other objections to the plan?

What to Do With Our Girls.

Under this heading the British Bee Journal mentions an exhibition under royal and distinguished patronage held in London, as follows:

"The exhibition is organized in connection with 'The Girl's Realm Guild of Service and Good Fellowship,' and is in every respect a unique one of its kind, inasmuch as daily demonstrations are to be given in every kind of employment suitable for gentlewomen. Some 70 trades are represented, in all of which skilled ladies are seen busy at work, and ready to afford information and advice to girls wishing to engage in their several occupations, among them being lady gardeners, poultry-farmers, bee-keepers, etc.

"The many ladies who are now taking a keen interest in bee-keeping as an outdoor pursuit will find much to interest them in apiarian matters, popular works and periodicals devoted to bee-craft being displayed on the bookstall.

"Among other attractions connected with bee-keeping, we are glad to see that Messrs. Abbott Bros. have erected a very pretty stall, in which are displayed hives and bee-goods of various kinds suitable for ladies' use. The attendant in charge will give all information required by visitors, and explain how the various appliances are used.

"The entire exhibition is well calculated to show in the most practical way 'what to do with our girls'."

Honey Drops for Coughs and Colds.

Take 1 tablespoonful of malt and about 1 pint of water. Boil for 10 minutes slowly; then strain the water, and pour it back into the saucepan. Next put into that water 1 pound of good sugar and about 3 ounces of honey. Not more than 3 ounces of the latter should be used, as otherwise the honey-drops would be sticky, and would not keep firm a long time, as they should do. Boil the mixture, and stir until the sugar is thoroughly dissolved. While it boils remove the scum and the impurities always existing in greater or less degree in the sugar, and which rise to the surface. Boil the mixture to 113 degrees Reaumur. The easiest way of testing whether it is boiled enough is to take up a little with a spoon, and dip it into cold water. If it then breaks or cracks like thin glass or ice, it is boiled enough. Care must, however, be taken not to over-boil or burn it, because burnt sugar or honey is as detrimental to the health of men as it is to bees.

A smooth, clean slate or a marble slab having been covered with olive oil, the mixture is then poured on it and allowed to cool for a few minutes. Then, as the mixture stiffens, gather the ends and sides, and double the cake like two sheets of cardboard. Before it gets cold divide it promptly into small squares of proper size with a sharp knife, which latter has been also slightly smeared with the oil. The honey-drops are then finished. If put in a tin with a well-fitting lid, they will keep good for a long time. Leaving them exposed to the open air deteriorates them.

These are the honey-drops of which Mr. Woodley says, in a former number: "There is a full honey-flavor in them, almost as though it was a small lump of heather-honey. A better remedy for a sore throat could scarcely be imagined, as they melt slowly in the mouth."

I may add an incidental remark about an objection which may present itself

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to those who, on reading the above recipe, may ask: "Is it possible to burn honey?" We are sometimes advised to boil honey before using it as food for the bees. But it must be borne in mind that good honey (I do not speak of honey that may be as thin as water) can not be boiled *unless some water be added to it*, for, honey being a kind of sugar, it will be burnt before it has boiled for two minutes; and when cooled down it will settle like strong glue, and in that condition be perfectly useless to bees. Honey may, indeed, be heated *au bain-marie* without danger of burning it, but then it is not boiled, only heated. Hoping that these remarks may prove useful to some of your readers.—Bro. Columban, O. S. B., in the British Bee Journal.

Conducted by LOUIS H. SCHOLL, New Braunfels, Tex.

Texas the Great Honey State.

The mesquite trees did come into bloom in June as mentioned in last month's "Beedom," and the result is a good crop of honey for the great Lone Star State. Cotton has been yielding well in most of the localities of the black land districts, and altogether the majority of the bee-keepers can not complain.

This keeps Texas still in the lead as the greatest of the States in honey-production. It seems about time that the "other fellows" were owning up to it now, since we have tried to prove it so many times. The truth of the matter is that it is almost impossible even to guess the right amount of honey Texas produces, since it is not shipped out in carloads, etc.

Cultivated Honey-Plants for Texas.

Alfalfa is planted a great deal and yields honey under favorable conditions, with or without irrigation. Not enough of it is grown here yet, however, to make it an important source, but with the advent of irrigation in the arid sections of all west Texas, it should rival with the Western States where alfalfa honey is abundantly produced. None other of the clovers thrives well here, except white and yellow sweet clover, and since there is so much waste land, it would mean much to increase our honey-flows and to tide the bees over the summer months. However, the southern dry climate does not seem to agree with its growth unless cultivated, hence it soon disappears. In the northern part of the State a good deal of it grows, having been first planted many years ago. This clover, known as *Melilotus alba* and *M. officinalis*, was once considered a noxious weed, but not so now, as several of the experiment stations and other investigators have shown.

Another cultivated plant is the cow-pea, generally planted in the cornfields for fertilizing purposes after that crop is made. As these bloom during the dry months, the bees are kept out of mischief. Cow-pea planting should be encouraged, as there is no better improver of soils with so small an amount of labor, and it furnishes bee-forage just at a time when needed in the dearth of our summers.

Some 30 varieties of honey-yielding plants were tested at the A. & M. College Experiment Apiary for several years, but only the above proved of sufficient value for bees. It is also not profitable to plant for bee-forage alone.

A Honey-Plant Bulletin for Texas.

"Texas Honey-Plants" is the title of a new Bulletin, No. 102, of the Department of Entomology of the Texas Agricultural Experiment Station. It is a preliminary bulletin on Texas honey-plants so far collected by the writer in the last 10 years. The bulletin is of a technical nature, giving a large list of honey and pollen yielding plants of this State, with the botanical name, and, where possible, the common name of each. Besides mentioning briefly the quality of honey of each plant, the quality and yield of pollen and propolis are also frequently mentioned. The geographical distribution is given in a brief way, so that the bee-keeper is able to form some idea of a locality by following up this in connection with the importance of the plants in question.

It is hoped that this list of honey-plants will be helpful to bee-keepers in becoming acquainted with the honey-yielding flora of the State. Also in helping to decide upon suitable locations for apiaries, or that it may help in selecting certain plants that may be of value in already occupied locations. If interested, the Department may be addressed at College Station, Texas.

Honey as Cure for Diseased Eyes.

Some time ago in Menard Co., West Texas, a poor pilgrim was on his way to Austin, to have his eyes treated. He camped for the night at a refreshing stream and reposed under the canopy of heaven. Some time during the night his team got loose and wandered off. In the morning he made an effort to find them, but his eyes were in such a painful condition he could see but a short distance. During the day a passer-by hailed him. He related his story, and that he was on his way to Austin to have his eyes cured. The good Samaritan informed him that he could cure him, and that he could return home. "How, I beseech you—quick?" replied the pilgrim.

"I am on my way to market with a load of honey for sale, and if you thoroughly bathe your eyes in honey it will cure them," replied the passer-by.

"Apply the remedy for me, I 'umbly beseech you," plead the pilgrim. The bee-man bathed his eyes well, allowing the honey to get into them and under the lids; he even went so far as to improvise a sort of honey-poultice for the eyes for the night.

The next morning the pilgrim's eyes were not well, but so much improved that he returned to his home, after the good Samaritan had given him enough honey to cure his eyes. At his home the pilgrim applied the honey until his eyes were entirely sound and well.

The above was given me by Mr. T. A. McQuary, who at the time of the incident resided in Menard County. He is a reliable man and vouches for the statement. The bee-man's name is "Crunk," so I was informed.

T. P. Robinson.

Is Honey Poisonous?

It is often stated that bees gather honey that is a poison to the human family. We have often heard people speak of certain kinds of honey, or honey gathered from certain shrubs or plants, that if eaten would make one deathly sick. That honey does make people sick at times and under certain conditions we have positive evidence, and we could say the same of pork, beef, etc. But the question is, Is honey ever poisonous? I do not believe it is, and I shall try to tell you why I think as I do.

You who have been reading my articles know that I am not able to deal much on the scientific side of the subject, as I should very much like to do if I felt competent; but, first, for what purpose is nectar or honey placed in flowers? At first thought one would say, "To be gathered by bees for the use of man," which, to a certain extent is correct; but that is not the only reason that the various flowers secrete nectar and pollen. It is a well-known fact that most of our fruits, as well as many of our vegetables, would be sterile or barren were it not for the visits of the honey and pollen-loving insects that visit them to carry the fertilizing dust or pollen from flower to flower, and in early spring the honey-bees are the only insects that are plentiful enough to perform this very important act. So we see the nectar of flowers is not placed there just for the bees to collect for the use of man, but to attract the honey-loving insects so that perfect fertilization may be accomplished and trees and vines may become fruitful.

All who have had any experience with poisonous insects know that they are far more easily poisoned than our larger animals. It is said that the amount of poison in any kind of sweets that will readily kill bees or other insects will

have little or no effect on the human system. This is why I say that no kind of nectar secreted by the flowers of any shrub or plant is poisonous. If the nectar that is in the various plants were really poison, the bees would never be able to reach their hives with it, as all honey is carried in the first stomach or "honey-sac" of the bee. Then, if the honey in the plants that was put there for the purpose of attracting the bees so as to cause perfect fertilization of the flowers should be poison, it would seem that nature—or God, if you please, —had made a big mistake.

No, honey is not poison, as gathered naturally by the bees from any shrub or plant, and I think the cases of sickness that are reported from eating honey, from time to time, are from one of two causes, first, from over-eating; second, from eating green or unripe honey, which is not wholesome.—L. B. SMITH, in Dallas News.

Conducted by J. L. BYER, Mount Joy, Ont.

Fair Honey Prospects in Ontario.

In our locality as well as in most parts of Ontario, May was very wet. However, since June came in, a different state of things has existed. For 3 weeks here we have had scarcely any rain, and as I write (June 21) everything is dry, and rain is needed badly. However, clover is rank by reason of the abundant early rains, and for the past 4 days has been yielding fine. If rain comes, followed by good weather, prospects are good for a crop.

Bees in our locality, as intimated in the June number, are not in as good condition generally as in other years, but the late season has helped some, and prospects on the whole are fair.

LATER, June 24..—Since writing the above, we have had splendid rains, and everything looks *smiling* again, even the bee-keepers.

When to Examine for Foul Brood.

It is a common view that during a flow of honey, is a good time to examine bees for foul brood. While this is true in so far that honey enough to prevent robbing should be coming in, yet when there is a "sprinkling" in the yard, during a HEAVY FLOW is not a good time to inspect the bees. The bees in their eagerness to deposit the nectar will put the honey in cells even if there are dried scales of foul brood present, and where a colony is but very slightly affected, it is a hard matter to be sure of not missing seeing a cell or two. A recent call to inspect a large apiary that had only 3 or 4 cases of foul brood leads me to make this statement. While there, honey was coming in very rapidly, and everything was simply swimming in nectar. The best time in my estimation for looking for foul brood in suspected colonies, is during fruit-bloom.

Spraying Blooming Fruit-Trees.

Editor Hurley says in June Canadian Bee Journal that a bee-keeper in British Columbia has written him that there they have an inspector (presumably an orchard inspector) who advocates the spraying of fruit-trees while in bloom. Mr. Hurley expresses surprise at this, as here in Ontario we have a law that prohibits the spraying of trees while in bloom. I am not sure as to how much legislation has been enacted along this line in the United States, but from various articles noticed lately in different papers, I presume our American bee-keeping cousins need to be on the move to see that spraying in bloom does not become more general than is the case now.

One of these articles referred to was written by an entomologist of Washington State, and he advocates a thorough spraying with arsenate of lead to kill codling-moth. He says:

"To reach the bottom of the calyx much pressure is absolutely necessary." "Stay with a tree until the bottom of every blossom is filled." Most early worms enter the apple through the bottom of the calyx cup. When this is poisoned there can be no late worms, for the early must live to be the parents of the later ones."

Whether this course is necessary or not is not for the writer to say, certainly the bulk of opinion says it is not even necessary, but positively harmful. Certainly it would make short shift of the bees. The following article is taken from the National Fruit Grower, and is self-explanatory:

SPRAYING IN THE BLOSSOM.

"There has been considerable discussion pro and con concerning the exact time when spraying for the codling moth should be done to secure best results. It has been the accepted theory that at least 80 percent of the blossoms should have fallen before spraying should be done. Recent experiment, however, demonstrating this is later than it should be; that when 40 percent have fallen operations should begin, and in one of the most extensive fruit sections in New York spraying when trees are in the height of bloom has been practiced for the past 5 years with not only the best of results so far as the control of the codling moth was concerned, but without any apparent injury to the fruit. Our own observation in other sections confirms this experience.

"It is a fact, therefore, worthy of careful attention, because if spraying in the blossom can be successfully and safely done it is a very decided advantage in that it allows a longer period in which the work necessary for the control of this pest of fruit, principally the apple, can be carried on. The importance of spraying for the first brood of codling moth cannot be misunderstood. If this spraying is thoroughly done, the subsequent broods will amount to very little. Spraying in the blossom then will be an advance over present methods and promises a larger control of the moth, and an added value to our fruit crop.

"One of the greatest objections to spraying in blossom has been the danger of killing the bee, which is a well recognized friend in the pollenization process of fruits. Some experiments along this line are exploding old and generally accepted theories. It is found that alternate planting of fruits of fertile bloom with those of infertile was far more productive of benecial results than any or all bees furnished in pollenization. A large apiarist near Gasport, N. Y., in his testimony before the committee on agriculture of the New York Assembly stated that he saw no injury whatever to his bees from spraying the fruit orchards in his neighborhood when in full blossom with the usual arsenites. This evidence may not be convincing, but it is sufficient to justify careful experimenting with a view of determining the facts. The shortness of the time to spray for codling-moth has been the difficulty in having the work done as it should be done, and if spraying can be done in the bloom without seriously affecting the bees or injuring the bloom, controlling codling-moth is very much simplified."

It would be interesting to know how this "large apiarist near Gasport" arrived at such conclusions. Certainly a number of reliable apiarists have had to their sorrow, quite a different experience.

Souvenir Bee Postal Cards

We have gotten up 4 Souvenir Postal Cards of interest to bee-keepers. No. 1 is a Teddy Bear card, with a stanza of rhyme, a straw bee-hive, a jar and section of honey, etc. It is quite sentimental. No. 2 has the words and music of the song, "The Bee-Keeper's Lullaby;" No. 3, the words and music of "Buckwheat Cakes and Honey;" and No. 4, the words and music of "The Humming of the Bees." We send these cards, postpaid, as follows: 4 cards for 10 cents, 10 cards for 20 cents; or 6 cards with the American Bee Journal one year for 50 cents. Send all orders to the office of the American Bee Journal, 118 W. Jackson Blvd., Chicago, Ill.

Apiarian Pictures

We would be glad to have those who can do so, send us pictures of bee-yards, or of anything else that would be of interest along the bee-keeping line.

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Conventions Among Bee-Hives—Alfalfa

BY C. P. DADANT.

I lately attended the Missouri State Bee-Keepers' convention, held at Carrollton, May 26th and 27th. One session of this interesting meeting was held right among the bee-hives at the apiary of Mr. A. Finlayson. In all my experience as a bee-keeper and a member of different associations, I do not remember having ever attended a meeting in the apiary. I am truly enthusiastic over this method. Bee-keepers may talk and discuss in a convention hall, but nothing will prove as pleasurable as an open-air meet, where the arguments may be completed by practical demonstrations under the eyes of all. It is good for the beginner, good for the practical man, and there are none who will not learn something new, sometimes quite unexpectedly.

The program of this meeting was carefully arranged by the active and indefatigable secretary, Mr. R. A. Holekamp, of St. Louis. Knowing that there are thousands of bee-keepers in the State who do not yet keep bees by the modern methods, Mr. Holekamp arranged to have this special session for the purpose of demonstrating in practice the transferring of bees from the common box to movable-frame hives. A number of common hives had been brought to the spot the day previous, by Mr. Finlayson, and the demonstration took place in the afternoon of the first day of the meeting.

Like a true lover of the bee, the worthy secretary took off his coat and went to work, giving explanations as he went on. Some 25 or 30 bee-keepers were present, but it seemed to me that they were all quite practical, and that very few of them needed the lesson in transferring. However, the work was not lost, for it gave rise to comments, and criticisms, and discussions took place on the different methods of transferring bees.

In this matter of open-air meetings America may well take example of Europe, where such meetings are frequent. The bee-keepers meet at one another's yards, and the comparison of methods is thus emphasized. Besides, it gives emulation to all, each man trying to have the best-looking yard, and ill-kept apiaries become rare.

Local meetings of this kind should be arranged in every county, or at least in different parts of each State. This need not deter from our large State or National Conventions. Such meetings as the Northwestern, which takes place every year at Chicago, can not be dispensed with. But between times, a few local meets in the apiaries of progressive bee-keepers will be appreciated, especially after a little experience of this kind.

The success of local or State apiarian organizations depends almost entirely upon the activity and earnestness of the secretary. It requires devotion to the cause, and the doing of a great deal of work with very little pay, for thus far our associations are unable to pay fair remunerations even to the managers of our largest bodies. It is therefore of the utmost importance to keep in office men who are willing to work for the common good without counting much on the returns.

ALFALFA GROWING IN ILLINOIS.

Turning to another subject, I would like to hear in the American Bee Journal from apiarists who have tried alfalfa in Illinois, on a sufficiently large scale to be able to make positive statements as to its results, both as a forage and as a honey-producer. We have at two different times tried it. We now have about 4 acres almost ready to bloom, and I must acknowledge that I am very much disappointed with it. It seems weak and unadapted to the locality. Perhaps the constant rains have had a bad effect upon it. This plant would be of so great use, both as honey and hay, that it is worth while to discuss its merits.

We must remember that plants that are good honey-producers in some localities are entirely worthless for the same purpose in other spots. For instance, I read in the Bulletin d'Apiculture Suisse for June, a short piece in which the writer speaks of white clover, and wonders whether the kind which is so highly useful in the United States would prove profitable in Switzerland. He manifests the intention to give it a trial, by securing seed from two or three different places in the United States. He will probably record a failure, for I have been informed by very positive authorities that our valuable white clover yields no honey in Switzerland.

But before giving up the growing of alfalfa, which is so wonderful a forage-plant, we should make it certain that it will prove useless here.

Hamilton, Ill.

Baldridge Plan of Treating Foul Brood

BY M. M. BALDRIDGE.

The Baldridge plan of treating a foul-broody colony successfully is as follows:

1st. Open the hive of the diseased colony and cage the queen. The best time to do this is late in the afternoon or near sunset. Place the caged queen in the top of the foul-broody hive, and where the cage can be got at with as little trouble as possible.

2d. Bore a small hole—about one inch in diameter—in the front end of the foul-broody hive a few inches above the regular entrance, and fasten over it on the outside of the hive a Porter bee-escape. After the bees are through flying for the day turn the foul-broody hive half way around so the bee-entrance will face the opposite direction.

3d. Now go to some healthy colony and select one or two combs of brood well covered with bees, and place them in an empty hive and fill this hive with empty combs, frames of comb foundation, or empty frames, and set this hive on the stand of the diseased colony. The rear ends of both hives will now touch each other, or they may be a few inches apart. Now leave the hive thus, for say 2, 3 or 4 days, or long enough for the outdoor workers in the foul-broody colony to return to their old location. This they will do, of course, and they will then remain in the new hive having one or two combs of healthy brood.

4th. Near sunset of the second or third day take the caged queen away from the diseased colony and simply let her run into the entrance of the new hive.

5th. Now close the regular entrance of the foul-broody hive and all other exits except the one through the bee-escape. Then gently place this hive by the side of the new hive and close to each other, the closer the better, with both fronts facing the same way. Thereafter the bees that hatch or fly out of the diseased colony must pass through or out of the bee-escape, and as they can not return they must and will go into the new hive. By this means the new hive, in the course of 3 or 4 weeks, will secure all, or nearly all, the bees and brood that were in the diseased colony, and during this time, or for any length of time thereafter, no robber bees can gain entrance thereto and carry away any diseased honey.

This plan of treating foul-broody colonies prevents all loss in bees, honey, or the building of new combs, and is a simple and practical way of treating the disease. In some respects the plan is a far better one than any other I have seen described.

My plan may be carried out in divers ways, but it is not always best to describe such and thereby confuse the reader. The entire plan is based upon the well-known fact that foul brood is a *germ* disease, and that the germs may be taken into a new hive by the bees filling their bodies with the diseased honey deposited in the foul-broody hive. The disease may likewise be taken into the new hive by the *nurse-bees*. My plan does away with all such danger, for when the diseased colony is left undisturbed over night the bees re-deposit all their honey, and on going out to work the following day they go out with empty bodies and return with healthy honey. All the *nurse-bees* will remain in the diseased colony, and before they pass out of their hive through the bee-escape all germs in their bodies will have been disposed of in nursing the

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uncapped brood in the foul-broody colony.

My plan of treating foul brood is not exactly a new plan, as it was outlined by me in 1897, page 333, in the Bee-Keepers' Review. Since that date I have treated a number of foul-broody colonies by my plan, and always with good success. I am advised that others have done likewise.

St. Charles, Ill.

[This article is republished by request from the American Bee Journal of July 6, 1905.—EDITOR.]

Some Bee-Keeping Stray Straws

BY ADRIAN GETAZ.

Stray Straws! Yes, but not by Dr. C.C. Miller. And while I am in no way as good a "stray-strawer" as Dr. Miller, I hope that these few lines will help some of the readers.

NEW PLAN TO PREVENT SWARMING.

I begin with one on the Doctor's new plan of preventing swarming—it is merely caging the queen in a hive-body instead of in a small cage. And I *almost* think that he is on the right side of the fence. After a long experience in that line, I *almost* think that the caging of a laying queen for any length of time may be at least occasionally injurious. Yet I do not know positively. As a rule, requeening gives me better results.

WHERE TO PUT THE CAGED QUEEN.

Doolittle says that when the caged queen is placed at a certain place (I do not remember where), the bees will not start queen-cells. His experiment was merely a coincidence. After he will have caged as many as I have, he will find out that the place has nothing at all to do with it. What has to do something, is the amount of unsealed brood present. If there is only a little, the queen-cells will be started quite soon. If there is plenty of it, enough to keep the nurse-bees busy, they will not think of building queen-cells for some time. And when they eventually realize that something is wrong, the remaining larvæ are too old to admit queen-rearing.

HEAT OF INSECTS.

In a contribution sent to the American Bee Journal several months ago, I stated that the body of an insect is warmer than the surrounding atmosphere, and the thorax somewhat warmer than the abdomen. Very likely many readers of this paper have wondered how the temperature of an insect's body can be ascertained, and what kind of a thermometer was used. An explanation might not be amiss here.

Suppose a copper wire of which the two ends are exposed to different temperature, then a flow of electricity will take place from the warmest and toward the coldest, and the greater the difference of temperature is, the stronger will be the flow.

Everybody knows what a magnetic needle is. It is a long, flat piece of steel pointed at both ends, which always turns when free with one end toward the North and the other toward the South. Now let the aforesaid copper be wound around the needle a great many times from end to end, but not touching the needle, held up say 2 inches or more away from it by any suitable contrivance, the ends of the wire remaining free. Let one end be warmer than the other, then a current of electricity will flow toward the colder end. But that is not all. The electric current will, so to speak, pull the magnetic needle toward a position right across the ring formed by the wound wire. The stronger the current is, the more the needle will be deflected. The deflection will furnish us means to ascertain the strength of the flow, and this in turn, the difference of temperature between the two ends of the wire. If one end of the wire is sharp-pointed and thrust into the body of an insect, the difference of the temperature between it and the surrounding atmosphere will be ascertained at once. For full details and explanations, see the text-books on heat and electricity.

QUEEN AND HAT.

We were informed some time ago that while working in the apiary Miss Wilson found a queen on her hat. The Doctor tells us that he "don't know" how the queen got there. Neither do I. But I guess that while working with some colony, Miss Wilson scared the queen so badly that she flew away (I mean the queen, not Miss Wilson) for safety. Before hiding somewhere, she marked the locality, of which at that time Miss Wilson and her hat were the most conspicuous landmarks. When her scare was over, the unfortunate queen started for home, and of course, went for the "landmark" she had noted, and was undoubtedly very much disappointed in not finding her home on the other side of the "landmark." Not knowing what to do she climbed to the highest point, whether to get a better view or what, I don't know.

But I do know that careless manipulation will occasionally scare the queens out of the hives for a time. I have occasionally failed to find the queen and made a thorough investigation, such as left me absolutely certain that the queen was not there at all.

WHEN TO REQUEEN.

Mr Dadant, in his last contribution on the subject, "When to Requeen," quotes several of our best writers, saying that queens are usually good until 4 or 5 years old. None of them says, however, that they are as good at that age as they were when only one or 2 years old. In fact they do not seem to have even considered that question.

Dr. Miller is then quoted as saying that the majority of them begin to fail during the third year. And I think that the majority of our extensive bee-keepers who have paid any attention to the matter will agree with him. I think that they will also agree that the majority, even nearly all, are as good the second year as the first. This being the case, the best way would be to requeen throughout every second year. A failing queen means a falling off in the strength of the colony, and a corresponding diminution in the amount of surplus obtained, and we want to avoid that.

Waiting until the bees find out that the queen is not laying as much as she ought to do, and then requeen themselves, is even worse, for by that time the loss might be considerable.

The apiarist who requeens himself, has the advantage of being able to select the best of his stock, while the one who lets his bees do the requeening has to take his chances.

If I were an extracted-honey man, I do not think that I would requeen more often than every 2 years. But for a comb-honey man the case is altogether different. The object sought is to control swarming. It can not be contested that a year-old queen is far less liable to swarm than one 2 years old or more. I will not attempt to explain it now. There is something else, too. A great drawback of comb-honey producing is the tendency of the bees to crowd honey in the brood-nest, with the result that more swarming follows, less honey goes into the sections, and the whole is aggravated by a reduction in brood-rearing. So many causes influence the work of the bees, that it is difficult to say whether this, that, or the other was the cause of a reduction in the surplus. Nevertheless, after 2 years of experience in bee-keeping, I feel satisfied that a year-old queen will keep the honey out of the brood-nest better than her 2-year-old sister, and thus gain the advantage, though she may not be any better otherwise.

Knoxville, Tenn.

Pure Food Law—New Methods in Bee-Keeping

BY GRANT STANLEY.

The bee-keepers of this country certainly have something to feel proud of in the passage of the National Pure Food Law. I greatly doubt if there has been any other law passed in the history of this country that has benefited bee-keeping so much. In fact, the way it looks at present, there is nothing left for the bee-keeper to do, but to see that all the honey he or she offers for sale shall be of the highest quality.

Just prior to the passage of this law, the editors of the various bee-papers were extolling its value so high, and what it would do for bee-keepers, that a great many thought, if only a part of what was being said would come true, it would certainly be a great move in the interest of honey-production.

Well, the law was passed only a little over a year ago, and the result at this period is even more than we expected. In fact, I can scarcely realize that the passage of the law would have such a decided effect on our business in such a short time. In all my bee-keeping experience, I never saw such a demand for honey as last season. This demand was not solely with the consumer, but the merchant as well. Merchants and consumers alike seemed to have so much confidence in honey, and the former were anxious to buy in any quantity they could, and not hesitate a moment in paying an advanced price over former years.

Now, this is not all; but my! what

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the passage of the law has done to remove the suspicion about adulteration in honey. Well, it is little short of wonderful. You can scarcely hear it mentioned at present. We can readily understand by this that the consumer will purchase honey when he can feel he is getting just what he pays for, and not have a lot of "glucose nostrums" shoved on him.

The passage of this law has done more to remove this cry of adulteration in honey than years of the most judicious advertising. In fact, it looks now as if it had accomplished all that could be desired.

Now, let us remember that all the legislation in the world will not help our business unless we do our part. The law is now in force, and we must use every effort to see that our product is in keeping with it. See that your honey is well ripened and sealed before removing from the hive, then dress it neatly, and no trouble need be felt as to the demand.

NEW METHODS VS. OLD ONES.

Are new methods ever an improvement over old ones? I answer, yes. It has been said that when desiring a new or original method of any nature whatever, set an inexperienced man at it and the results will more than likely be all that could be expected. The editor of one of our leading magazines announces he will give one thousand dollars for a new story by a new author. The only condition of competition is that the writer shall never before have written and published a novel of standard length. The idea is to induce those to write who have not done so heretofore, in the hope of drawing out new and original ideas.

Our writers of reputation have become inflexible or fixed in their manner of work. The same can be said of beekeepers, and possibly men of all professions. We follow our steps year after year until we become so grounded we just think we can not leave it, or have no desire to change. If we do not care to adopt new methods, we should at least not hestitate to improve the old ones.

Nisbet, Pa.

What are Untested, Select Untested, Tested, Select Tested, Breeder, and Select Breeder Queens?

BY RALPH P. FISHER.

In calling attention to the general system of classifying stock as practised by many of our so-called reputable queen-breeders in wording advertisements, I do so with a view toward creating a little disturbance among that fraternity as a mutual benefit concerning such business, and a desire to see a more consistent system of filling orders oblige those who buy but few queens.

Instead of keeping the large number of this class of buyers more and more in suspense with words of double meaning, it seems wise at this time to challenge measures that tend to mere inconsistency, and demand a more intelligent form of general advertising, so that "untested" or "tested" stock can be rightly understood. My experience, as well as others within the rural districts, goes to prove that queen-breeders have been and are today very inadvertent in regard to adhering to the right classification of all queens intended for sale.

The untested variety from almost any yard are invariably a mysterious problem without a thing to recommend them save the reputation of the breeder, and whether from the east or west they have no regularity of character, proving the practical need of conservative classification.

In these days such things ought not to continue with so much persistence, but rather pursue a more strenuous effort to give full value for dollars received, as experience in buying from various breeders shows that almost any queen is good enough to go for the untested variety, and but little difference is made between these and the tested kind, save that the tested kind are much older.

I fully know that queens vary quite materially in character and quality, and I also know that the laws of creation are ample, omnipotent, to rear better queens rather than inferior ones while under Nature's undivided supervision.

It is naturally understood that queens procured from an experienced breeder should always prove superior to those in a yard where home breeding is not practised, and it is somewhat discouraging to state that the contrary is too often the case where anything but the best breeders are ordered.

In looking over the bee-papers of today one cannot, no matter how hard he tries, form a sensible idea as to what kind of a queen to order for a given purpose, having a list containing untested, select untested, tested, select tested, breeder, and select breeder queens to choose from.

Anything in the way of an advertisement is very confusing indeed when the words and the meaning of them are not at once apparent, and what breeder advertising like the above can say without blushing that such a list is a true version of the stock usually sent out from his yard?

Unless a person deems it prudent to purchase the best stock listed in the various publications he can only guess the result of such an investment. for to order an untested queen or a tested queen means but one more example in lottery.

From this it seems that to buy a select tested queen, or something better, is the only way to know you are nearly right, and will get something near your need, yet a good chance to guess if the thing is really an average select tested specimen. Inasmuch as honey-bees have held their predominant environments for a laps of several thousand years, and being today of more material productiveness than formerly, due to intelligent research, it appears most obvious to be continually hampered with so much stock of inferior variety.

The yards of all breeders should contain stock of superior characteristics as the result of careful selection, rather than to maintain hundreds of colonies little better than nuclei for the express purpose of furnishing the largest possible number of queens. This is more often done than is good for the general public to know about, and one of the points needing immediate adjustment.

As the majority of queens are purchased to offset fatal results due to unfavorable weather conditions, and sometimes to introduce new blood, it is apparent that warranted stock should at all times be sent out. Of the 20-odd untested queens purchased since 1900 for these very reasons, only a small percent of them proved to be truly mated and up to standard, and the few obtained to better our stock were short of meeting expectations.

Now, if it is true that the queen's mating does not affect the drone progeny, then no conscientious breeder can be excusable for any such variety as appear in the papers now published.

Unfortunately for the buyers of queens many good breeders are located in places where superior stock cannot be reared in its purity, because surrounding conditions hinder the desired object; but even here there is no reason for much variety in regard to character or prolificness.

Whether stock is pure or hybrid the effect on prolificness is immaterial so long as it is superior, as evidence shows most buyers are only anxious to have those queens that are large, robust specimens, capable of keeping rousing colonies and full supers. Large, active colonies are the fundamental acquisition sought for regardless of any pronounced species, and a breeding yard composed of this predominent stock intelligently handled, can produce only queens that are superior, with good assurance that a tested or untested specimen will develop all the constituents.

If it is quite necessary to ask the legislature to regulate the general use of true labels on honey packages, much more infinitely are we in need of just guarantees on queens consistently classified, that the breeder may at all times reciprocate with a lenient contention of doing justice.

In the queen-business much is yet to be improved upon in regard to breeding superior stock, and as the publishers are in the best position to dictate favorable regulations, measures should at once assume actuality and compel immediate adjustment of the details as cited above.

Great Meadows, N. J.

Spring vs. Fall Feeding

BY L. E. GATELEY.

The attitude of the various apicultural papers on certain questions pertaining to practical bee-culture, is at times quite amusing to the man who has for any time been engaged in the production of honey. For instance, Mr. Hill says in the April American Bee-Keeper:

"While the Bee-Keeper does not recommend bee-keeping as a money-making specialty, it believes that a vastly greater number of colonies than is now kept might be made profitable."

How is that for a paper that stands second to none in advancing and holding out for the latest and most progressive

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ideas relating to intensive and extensive agriculture?

It would be possible to show quite as startling a view held by almost any one of the bee-periodicals on some certain subject, but as an assault on editors in general was not the intent of this article, I will refrain. Still the aggressive attitude of Gleanings just now toward our old stand-by — spring-feeding — can hardly be allowed to go unrebuked.

The position Gleanings appears to have taken in this discussion is, that all colonies should be provided with sufficient stores before the beginning of winter so that there will be none needing attention in this respect at the breaking of spring. Now, while admitting the possibility of there being localities where this might work, as in case of a late honey-flow, we all know that in the majority of cases, it is either break your back spreading and equalizing brood, or practise stimulative feeding. Of the two evils, the former is unquestionably the greater.

That fall-feeding when the bees are short of stores is fully as important as spring-feeding, I am quite ready to agree; but that it is more important—*no, sir!*

After devoting 12 years to the production of section honey, I have learned to look upon the practise of tearing open the brood-nest during chilly weather for equalizing or spreading brood, as a remnant of barbarism. I now depend altogether upon stimulative feeding for quickly building up weak colonies.

In theory, this feeding heavily in the fall looks as if it might be the whole thing, but in practise it will be soon discovered that bees can not be made to breed to their full capacity because they have a large amount of honey. Not until new honey, or a substitute, begins coming plentifully from somewhere, will the bees start breeding in earnest. Yet it is true that in most localities a colony that is *in good condition* in the spring, will usually, if it has plenty of stores, be in condition to make the most of the honey-flow. We can hardly dispense with the spring feeding, however, on account of the backward colonies, of which there will always be from 15 to 20 percent.

Fort Smith, Ark.

How the Bees Swarm

BY G. M. DOOLITTLE.

Very many of the young bee-keepers do not seem to know just how swarming is conducted, and so in their making of artificial swarms or colonies, by changing hives, they do not get the best results. Not long ago a man who had kept bees for 3 years, and thought he was quite well informed in bee-matters, told me that only old bees went with the swarm; and during the winter, while talking with another person, who numbers his colonies by the score, I was told that the young queen hatched in the parent colony within 24 hours after the prime swarm left. Now I do not say that it is impossible for a young queen to emerge from her cell within a day after the prime swarm goes out, but I do say that no such thing happens once out of a thousand times. It is only when the swarm has been kept 6 or 7 days by bad weather that such a thing can happen. Then, if any swarm ever issued, composed wholly of old bees, it would have to be from a prime swarm within 21 days from the time it was hived, or under some such abnormal condition, which is never the rule, but the exception.

I have had thousands of natural swarms, and experimented very largely to know under what conditions swarms issued, as a rule, and have found, in regard to age of bees, that bees of all ages, in about equal proportions, leave the parent hive from the old forager with her wings all tattered and torn from the wear they get when hitting them against the grass while working in the fields of clover, to the bee that has been out of its cell but a few hours — not long enough to have the white fuzz that is on its thorax and abdomen, obtain its usual color, which is seen on a bee of more advanced age.

Many and many a time have I seen the ground in front of the hive from which a swarm has just issued, nearly covered with bees so young as to be unable to fly, which after a little crawl back into the hive again; and as often have I seen the veterans with their jagged wings hanging with the swarm, as well as those having their pollen baskets filled with pollen. Thus we have the field-bees, or the outside workers, or bees from 6 to sixteen days old, and the nurse-bees, or those 6 days old and under, in about equal proportions, this showing that the All-wise Creator knew how things should be when He pronounced all which He had made as good. If it were not for young bees going with the swarm the home which the swarm entered would be nearly depopulated by the bees dying of old age, before the brood from the eggs which the queen would lay after the home was established would emerge from their cells to take the places of the rapidly dying population, as the field-bees have only about 26 days to live after they are old enough to go into the field to labor, when the colony cast a swarm is in a normal condition.

Under normal conditions, the bee is 16 days old before it goes out from the hive as a gatherer of stores, and as all worker-bees die of old age during the season of gathering honey when about 42 days old, 26 days would be the life of the worker after it entered the fields as a laborer.

Again, if all were old bees, where would the comb come from to fill the hive? for when in a normal condition the bees between the ages of 8 and 24 days old are the ones which do this work.

Then, how about the nurse-bees which prepare the chyle to feed the larvæ. When in a normal condition these nurse-bees are between 3 and 12 days old. Of course, when any colony is thrown out of its normal condition by the hand of man, the bees do the best they can, but the colony is not so prosperous then, as it is when normal conditions prevail.

But let us look inside of the hive when preparations for swarming are being made, and see if we cannot arrive at the truth in the matter, as regards the conditions under which the swarm issues, when the first young queen emerges, etc.

The first indication of swarming is the laying of eggs in the drone-comb. While eggs in drone-cells are not a sure sign that swarms will issue, yet, as far as I know—and this knowledge comes by careful observation—swarms never do issue without eggs laid therein. If the weather is propitious, the next step is the building of queen-cells, soon after which the old queen deposits eggs in them. In 3 days these eggs hatch into larvæ, and said larvæ are fed an abundance of food by the nurse-bees for 6 days, when the cells containing the embryo queens are sealed over. If no bad weather has intervened, the swarm will issue the next day, provided that day is fine, the old queen going with the swarm. Now bear in mind that this is the rule with the black or German bee, and generally with the Italians; still, the Italians often swarm when the eggs are first laid in the queen-cells, and sometimes without the least preparations at all except eggs in the drone-cells, when they are in the most prosperous condition, and the weather and nectar supply the most propitious. All good authority allows that the queen-larva remains 7 days in the cell, as my experience also proves; and I cannot see how it is possible to make the mistake of claiming that said young queen emerges in 24 hours after the old queen goes out with the swarm.

When such bad weather occurs that the swarm is kept from issuing during the first 6 days after the first cell is sealed, it is possible for the swarm to issue the next day, should that be pleasant, in which case the first young queen would emerge from her cell during that 24 hours. But this is something I never had occur but once or twice during my 40 years of bee-keeping life, for, in such cases, the bees become discouraged about swarming, when the queen-cells are destroyed and swarming is postponed for an indefinite period. So I find, as a rule, that the first queen emerges from her cell from 6 to 7 days after the first swarm.

If more swarms issue, the first of these, or what is generally termed the "second swarm," usually comes out two days later, or from the 8th to the 9th day after the first, and never later than the 16th. If a third swarm is allowed, this will come in from one to two days after the second, and if more than this, then there will be one issue every day afterward.

As soon as it is decided that no more swarms shall issue, all queens in the cells are destroyed, when, in from 5 to 9 days the young queen left in the hive goes out to meet the drone, two days after which she commences to lay.

This, in short, is as I find the condition during natural swarming. Now, in making swarming, if we would be successful to the fullest extent we will see that we have the queen and bees of all ages with her, as nearly as possible in accord with nature's plan of swarming.

Borodino, N. Y.

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How to Rear Better Queens

BY A. W. YATES.

So many different methods of queen-rearing are expounded that no wonder the beginner is confused in trying to follow them, but every intelligent person keeping bees, should know how at least to rear enough queens for himself, and let no stone go unturned until he has mastered the situation.

The methods in use half a century ago are still in vogue, with more or less variation, and the up-to-date breeder, as well as the novice, should not overlook anything to shorten his work or improve his bees, and whatever system is adopted, it must perfectly harmonize with the natural instinct of the bees if he expects improvement.

Bee-keeping is carried on much differently in these modern times from what it was 50 years ago, when any old box or tub answered as a bee-hive, and all young swarms, because the honey and comb was new and white, were "taken up" in the fall. By this method the old queens were killed and the young ones were left for the next season. Today, with our modern hives, all are kept over, both young and old, until they die of old age, and no wonder one colony gives us a large surplus while the other has to be fed to survive the winter, if survive it does.

All live stock has its time of maturity and usefulness, and when that begins to fail, the first thing we do is to get rid of it for younger stock. "It is a poor shoe that won't fit both feet," and if we expect to succeed we must see that our working stock is young and vigorous.

Our first requirement will be a breeder or mother queen, and as she is to be the foundation of the apiary, we must see that she is as good as money can buy. Money spent for a queen because she is cheap, is thrown away, especially so for this purpose. If honey is desired she must be strong and prolific, and her offspring large and vigorous, working early and late. We like beautiful bees if we can have them just as well as not, but should not sacrifice anything for beauty.

About April 1, 1906, I received a dozen queens from a breeder in the South. All were very handsome goldens, and reared, as I found out afterwards, in queenless colonies, and whether from the manner of rearing or weakness in the stock by inbreeding for color, I do not know, but they were all dead except 2 within 2 months, and not one was able to build up a good colony.

I use queens of my own importation from the North of Italy for nearly all my breeding, that I have had in my yard for a year or more, and thoroughly tested. But plenty of home-bred ones can be easily found, probably just as good, and the severe strain on an imported queen during passage is avoided. Out of the 6 that I imported last season the last one arrived with only one live bee in the cage for company, and probably all would have been dead in a few hours more.

The relation of the breeding queen to the rest of the colonies in the yard is such that what characteristics she shows, whether good or bad, in the bees of her own colony, we must expect to see transmitted to the others, and we must breed by selection, so as to retain these good traits and discourage bad ones as much as possible.

There are several methods of getting queen-cells started, most of which are by queenless colonies, and some breeders rear by this system also, but in my opinion this accounts for a good many short-lived queens, and unless reared in the flush of the season, when royal feed for the young in the larval state is plenty, I would not care for them. The best cells we see in a hive are those built at swarming-time, and in superseding. Both are built with a queen in the colony, and queens hatched from such cells are seldom anything but the best. If therefore, we want this class of queens we must do what we can to bring about one or the other of these conditions, for this is Nature's way and we must adhere to it. After we have a colony queenless 6 or 8 hours and have taken their brood away, give them a frame of brood from the breeder, and in 24 hours more there will be probably 20 cells started—enough for an ordinary colony to finish. This frame of started cells should then be taken away and the queen introduced; otherwise she would be killed like a stranger.

It is a well-known fact that if a hive be so constructed that the queen can not have access to all parts, and if some eggs and brood be placed in such parts, the bees often build queen-cells on it, and such cells are natural supersedure cells. Now if we can divide the brood-chamber with queen-excluding zinc, with the queen on one side and the frame of started cells on the other, we have things just as we want them, and the bees will finish such cells to perfection. Such cells when hatched, if taken and examined as soon as the queen emerges, will be found still to have royal jelly left, showing that the larvæ were not stinted. A strong colony with 2 brood-chambers and an excluder between answers the same purpose, and nothing but a strong, large colony should be used in queen-rearing anyway. This I think is as good a system to rear first-class queens as there is, and follows the natural tendency of the bees to build queen-cells when otherwise they would not do so. No colony is queenless but a short time in starting the cells, and we have nothing to do to interfere with the cell-building colony until 10 days from the start, when the cells should be separated and one given to each full colony or nucleus, as the case may be.

Any one who would like to see the difference between queens hatched in this manner and by queenless bees should try it and see. A short time ago I received a letter from a man that had reared a few queens, and he complained about their being small and dark, and looked like 30 cents—so small, in fact, that they would go through the Root-Tinker zinc. He reared them in a colony without a queen, but since he has tried this system he is better satisfied and has no more trouble.

Another thing: I have noticed such queens often fail to mate, for some reason, and if not lost in their mating flights will, after a short time, go to laying drone-eggs. If these directions are followed carefully, the mere novice can rear his own queens, and as good as money can buy; and those reared at home, not shipped through the mail, are undoubtedly the better. A good many complaints of poor queens could, if possible, be traced to rough handling in the mails.

There are several modifications of this system, but none better. Of course the brood to start the cells should not be over 6 to 10 hours old, or so small as to be difficult to see without a glass. I use colonies 2 and 3 stories high, and sometimes with 2 or more queens, for cell-building, and the more bees I can have the better. Queens reared in weak colonies or nuclei are likely to be poorly fed and unprotected from cold, usually look dark and small, and seldom are worth anything. They are only a detriment to the colonies they occupy, unless used in the plural queen-system, and I would rather have one good queen in a hive than a dozen poor ones. We hear a good deal about this 2-queen business, but like all other fads, it is liable to die out shortly, except in cases of queen-rearing or something of a kindred nature. Bees were created with one queen to the colony, and we have yet to hear of the man who has beaten "Dame Nature."

Hartford, Conn.

Esperanto Grammars Free

We have received the following communication, which is published for the reason that this new language appeals strongly to those who have the interest of humanity at heart, and especially to such as believe in the ultimate victory of peace, brotherhood and good-will among mankind. In Europe, Esperanto has already attained immense popularity in all classes and conditions of life:

EDITOR AMERICAN BEE JOURNAL—

Notwithstanding the great amount of publicity which has been given to Esperanto, the international language, I find that at this time not more than one-tenth of the people of the United States have even a vague idea of its purpose and scope, and perhaps not one one in a hundred has a reasonably definite conception of it. As a sort of counter-irritant to the irresponsible criticism which is occasionally circulated by the uninformed, I have printed for a free distribution a second edition of 100,000 copies of a small primer, "Elements of Esperanto," setting forth the grammar, word-construction and purpose of the language, and will mail a copy to any person who requests it, sending stamp for postage. While you may not be personally interested, there are thousands of your readers to whom this movement for an international auxiliary language, which now covers every country on earth, will appeal as something more than a fad, and they would appreciate your giving space to this letter.

Cordially yours,

ARTHUR BAKER,

Editor *Amerika Esperantisto*.

1239 Michigan Avenue, Chicago, Ill.

American Bee Journal

By W. A. PRYAL, Alden Station, Oakland, Calif.

To Correspondents.

From time to time I receive letters from persons in various portions of the United States who desire information about bees and other things in California. Where only a brief answer will cover the questions asked, I usually reply at once, but sometimes I lay the letter aside until I have time to give to such correspondence. To answer personally all letters that come to me from strangers who seek information of the kind mentioned, is no small task—(and some of them don't even send as much as a postage stamp to pay for the reply). I am willing to answer any reasonable questions, but don't expect a long letter from me, and be sure to enclose at least a stamp to cover the postage.

A Long Spell Without Rain.

It was a dry old time we had the past spring. If it were not for the heavy rains in January and the early part of February, it would have been a dry year, indeed. I don't remember such a long spell without rain in the spring than was the season we have recently passed through. The earth became so dry that it was almost impossible to get in the crops, except in the low lands, after the middle of March. There was moisture enough in the earth to keep the honey-plants growing, but the dry spell hastened early blooming—blooming that might cut the honey-crop short. And this I really believe is going to be the case. I am writing this in the middle of May, and I notice that flowers that are not usually in bloom until about the beginning of July are now in blossom. The hills began to parch a month sooner than usual. Of course the rains that we have been having in moderate amounts at intervals since the first of the month have been of some benefit to some crops; it has been injurious to the newly cut hay, and early cherries have been somewhat injured by cracking by the untimely moisture. Of course these rains have been beneficial to the honey-secreting flora.

Circumventing the Pilfering Bees.

A municipality maintains a costly police force to prevent crime, and one of the most abhorred crimes is that of theft; the offender being severely punished. But the pilfering bee is more fortunate than the human robber. This is mainly owing to the dexterity of the former in evading capture. As it is so hard to capture the robber-bee, the best thing to do is to guard against her depredations. During the period of such wantonness, let's get under a tent while going through the hives.

"But I don't like the average tent; you shut out the bees that are returning from the fields, thus demoralizing them," says one. Have the tent so arranged that it allows the entrance to be outside the tent. The robbers seem to overlook the hive-entrance; they seek the occasion of the strong honey odor—the top of the hive that is uncovered. There have been times when I was obliged to remove supers toward nightfall in order to escape robbers. But by using bee-escapes this is unnecessary; put the escapes in place at the close of the day's work and in the morning remove the supers. Be careful in replacing the combs after they have been run through the extractor. If not done immediately after removing the filled super, wait until late in the evening.

Up Stroke or Down Stroke — Who Knows?

To be or not to be—
Whether to shave the comb
On an ascending stroke,
Or slice it off downward.
If earthward, dig into the tin
And mar our knife's keen edge:
Or, if heavenward, clip our fingers,
And, perchance, swipe off our nose!

Very Un-American.

If there is any thing that "makes me tired" more than anything else, it is to find that some of our American publishers are such Anglo-maniacs that they are not content to ape lots of things English, and yet harmless, but they go to the extreme of printing books for American readers and retaining the spelling of quite a class of words that we decided to, and have long, spelled in a more common-sense way. The Doubleday-Page Company got out a bee-book not long since that sins in this regard. I find the English colour, honour, etc., style throughout its pages. It's a wonder they don't 'itch the cough hup to the waggon and leave the hold 'oss at 'ome. Doncherknow it would be jolly; it would be better than the beastly Hamerican way, you know. By jingo, it would.

Early Busybodies.

The lark is up to meet the sun;
The bee her labor has begun.
Johnny brought forth his little gun,
But the busy bee spoiled his fun.

That's "versifying" with a vengeance, but it expresses a whole lot of truth, nevertheless. Just imagine Johnny going forth at daybreak to hunt bear, and an innocent little bee sallying out in the balmy air too, and, perceiving the small boy armed to the teeth for big game, concludes to show the bear-hunter that his gun is not as dreadful a weapon as the one she has snugly sheathed in her "unmentionables." With that she makes a dive for the lad and drives a javelin under the tip of his nose. The boy sets up a yell that would do justice to a Piute; the bee laughs at the fun she has made, and then—dies.

Of course, this little tale could point a moral.

The Plague of Robber-Bees.

When the real dry weather begins then the little robber-bee's "voice" is heard in the land, and it has not only a doleful note for the apiarist, but the sound of calamity as well. Beware of the robber-bee; make her days in your quiet and peaceful bee-yard as few and short as possible. Better still, see that she gets no start in the apiary. It seems that some bees are more susceptible to rob than others; why, I don't know. We know that if we are careless and leave honey dripping about hives when looking them over, and when we are extracting, we are more than likely to start robbing, unless there is a great flow of nectar at such times. But when the real hot weather of the last of spring and during summer and fall arrives, the odor of an open colony will be the red flag in the eyes of the bees to start robbing and fighting.

An Eye on Climate and Business.

A young man in Texas writes me that he intends to visit this State during August, and as he is a farmer and bee-keeper he would like to find employment during the 4 weeks he is here, so as to reduce the cost of the trip. And he would like to know if one of his sisters, who is a good cook, could easily find employment should she come with him.

It is evident these young people have the right stuff in them. I should judge that they will succeed anywhere they may cast their lots. But it is not always easy to drop into something within a few weeks after coming to a new place. August is a nice month in the Coast counties, but rather hot in the interior. The harvest in the grainfields is being finished, and the wine and raisin crops are under way. The season with the bees virtually closes in July—this year it will close earlier than usual. There is good demand for field and vineyard hands at a fair wage. The best demand today in the State is for good cooks and housekeepers. And the pay is good—from $25 to $50 per month.

A Tonsorial Apiarist.

From one of the mining districts of Nevada I received a letter asking if a barber who has been keeping bees in a small way, would be justified in moving to some one of the towns or cities near Oakland; he would still like to manipulate the bees as well as the razor and the scissors. I am sure he would not find so much sand in the beards and "top-nuts" of the men hereabouts as he most likely does in the sand-swept mining regions of the Sage-brush State,

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though there may be more gold-dust in the pockets of the latter—and that's something not to treat lightly these dull times.

I was in San Mateo and Santa Clara counties last week, and from the way the cities and towns along the railroad have been growing I should imagine that any of them would afford an opening for bees and a barber. Then, the climate is splendid. Palo Alto, on account of its being a university town, is a good place, but I suppose it is well provided with "tonsorial artists and professors." Berkeley, in this county, is a 'varsity city with a population of 40,000, but 'tis opposite the Golden Gate and is a trifle too windy for bees. Otherwise it is an ideal place.

I think any of the fast-growing towns in this county east of Oakland would offer a good opening for bees, beards, and such things. There's Elmhurst, San Leandro, Layward, Dacoto, Centerville, Newark and Niles. The four last-mentioned expect a rapid rise in population owing to important railroad lines, in addition to those already in existence, coming their way.

Women Bee-Keepers.

I know I am going to step on somebody's corns, but as I'm independent and outspoken, I'm going to out with it. So here goes:

Woman's sphere is a big subject, and one often dealt with by writers. Lately some writers have been stating what a grand thing it is for woman to keep bees; what a glory it is for a woman to get out among the bees and do things! This observation has been called to mind by a rather indifferent article on bees in Sunset Magazine a few months ago.

Great opportunities for women who keep bees! Great Scott! Who ever heard of a woman bee-keeper, all by her "lonely," getting out and making a fortune, or anything near such, by running an apiary! I have heard of some women who were admirable assistants to bee-keepers. The first woman bee-keeper who attracted any attention was Mrs. Ellen S. Tupper in the early seventies. She was heralded everywhere as something wonderful; she reared bees and queens, and produced honey, and even sold supplies and edited a bee-paper. She wound up by becoming insane, and dying—I believe, in an asylum.

Then, there was Katie Grimm. She assisted her father to make a fortune off bees—how much of it I know not. She married and quit bees.

Mrs. L. Harrison held the boards longer than any other bee-woman I remember of. I think her main stunt, however, was with the pen, which was used to narrate how she did things with bees. She was a good woman, and no doubt did some earnest apiarian work.

The Linswick sisters, of Michigan, were pioneers in the line I write of, and, perhaps, produced more honey than any other single lot of women bee-keepers in the country. I believe they are still living, but bees no longer claim their attention, except, perhaps, in a small way.

But the wonder of 'em all was Lizzie Cotton! Her "hive" was advertised everywhere 30 years ago, and she made money off it. But no one ever heard of her as a bee-keeper. But she was a fraud pure and simple, and humbug-exposers devoted much time and space to showing up her and her fraudulent ways. I believe it was proved that there was no Lizzie Cotton—that some one used the name to vend a worthless patent-hive right. Under our present postal regulations she could not carry on her business many months before being driven from the Maine town "she" called her home. But, perhaps, on this showing I should not have cited the doubtful Lizzie as a fair bee-keeper—a bee-keeper of the fair sex.

Another woman who achieved some distinction in caring for bees and producing large crops of honey in connection with her husband, was Mrs. Sarah J. Axtell. She, too, was a bee-writer, and interestingly told how she did things.

I might tell of a few more, some of whom write entertainingly on bee-culture, one having written a bee-book which has been well-printed but not altogether so well written; and another who gets up a splendid woman's department for the "bee-keeping sisters," (God bless 'em, although I haven't been shying bokays at 'em, as Josh Billings might have written). But I think I have proved by contention.

Now, don't get after me; not that I am afraid of my ground, but for fear that I might forget to say bees, and just whisper loud enough to be heard, *"R-A-T-S!"*

Alfalfa a Great Honey Plant.

I believe if more alfalfa could be planted along roadsides and through the waste places throughout the length and

ALFALFA IN BLOOM.

breadth of this country, we would be more sure of a crop of honey every year than we now are. It is a plant that is easily started and when once it gets a root-hold nothing can drive it out, unless it be gophers, dodder, or some disease—what, I know not. And alfalfa started in this manner will be more sure of secreting nectar than will the plants in irrigated fields, as the latter is cut so frequently that there is seldom a stand of blooming plants. Besides, the alfalfa on neglected land will be richer in nectar than the cultivated.

I understand that alfalfa was first introduced to the northern hemisphere via California. It was grown here for some years before it was taken to some of the adjoining States. It came here from Chile. The first I remember of it attracting attention as a honey-secreting plant was through a couple of articles written for the Bee-Keepers' Magazine, February and April, 1874, by J. E. Johnson, who found it an excellent bee-forage plant in Utah. Since then it has become widely and favorably known and planted throughout Utah, California, Colorado and a number of other States. As a fodder plant it has no equal, and is therefore a favorite with the stockman. Try it.

Death of Mr. King's Daughter.

After a lapse of something like 20 years, the correspondence between Mr. A. J. King, formerly editor of the Bee-Keepers' Magazine, and myself, was resumed a few weeks ago. Mr. King had gone to Cuba after disposing of the Magazine to superintend some large apiaries, belonging, I believe, to the Cassanovas. Later he was in Arizona.. But during all those years I had not heard from him.

Years ago, just after the Civil war, he was the teacher in the Peralta school, a district that includes all of what is now that portion of the city of Oakland north of the Temescal creek, and the major portion of Berkeley proper, a territory now with a population of something like 50,000 souls—then a meager few hundred; the land being all devoted to farming.

But, as I was going to state, I heard from Mr. King, and he wrote me that he would pay me a visit on June 27th. He was then superintending a large apiary in Monterey county, but his home was in San Diego county. I was anticipating a very pleasant visit from my old teacher—some 40 years passed since I last saw him. On June 23 inst. I received a note from him saying that he was called home by a telegram announcing the death of his daughter, and that he arrived in time to attend her funeral. He further stated that his unexpected and sad recall home would compel his relinquishing his trip to Oakland and vicinity.

The loss of Mr. and Mrs. King's only daughter comes as a sad blow to them. They are both in the winter of life, for their three-score and ten mile-stones have been fairly and honorably passed. It is when a parent's sands of life are running low that a child's loving ministrations come as a heavenly blessing to their declining years. It is then that the affliction pierces the parent's heart deeper, and leaves a wound that can never heal. I am sure the sympathies of the bee-keeping fraternity of the land will be with the afflicted parents.

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Report of the Chicago-Northwestern Bee-Keepers' Convention.

(Continued from page 179)

EARLY HATCHED QUEENS.

"Why are early hatched queens poor?"

Mr. Wilcox—Call for a show of hands as to how many think they are poor.

Dr. Miller—What do you mean by early-hatched queens?

Mr. Dadant—If by an early hatched queen is meant one reared by a colony not ready and not strong enough, I believe that the question is right. If however, an early-hatched queen is simply a queen of an early swarm that is swarming naturally early in the season, I think it is entirely different. A queen might be hatched so early that the time might pass for her mating and she would be unable to find any drones; or where the brood can not be kept warm; or where the queen-cell is not made with large capacity. I think under some of these circumstances there is a chance for a queen to be inferior. I think there is a greater chance when the colony is not in a position to rear queens. A queen can not be inferior except accidentally, when a colony is in a position to have plenty of honey and plenty of heat, and everything necessary to rear a large number of bees.

Mr. Wilson—The flow of nectar has a great deal to do with it.

Dr. Miller—Can a beginner rear good queens in April?

Mr. Taylor—For a flight of the virgin queen in order to get good results it should be good, warm weather, and if there happens to be warm weather at the proper time, and if the queen is properly nourished, there is no reason why she should not be a good queen.

Mr. Moore—About 35 years ago I can remember that in rearing queens our folks took a single frame. They reared queens from a single frame. The 20th century idea is that the best colony is none too good for rearing queens. Beginners would better not try to rear queens until they have settled warm weather, and great big, strong, prosperous colonies to get them from.

Mr. Dadant—If you have plenty of bees in a small hive you could then rear a good queen. If you can get such a large number of bees concentrated on that one patch so that they will feed the queen with enough royal jelly, you can rear a good queen from a small colony, if crowded.

Dr. Miller—One of the things that I have had to fight about within the last few years was the saving of the life of any queen reared early in the season. Sometimes a colony will rear a queen in April. My own judgment is that the proper thing to do is to take off that queen's head. My assistant says, "Let them try." Miss Wilson, how many times have we gained anything by saving a life?

Miss Wilson—Not many.

Mr. Wheeler—You are not alone in that. I have women at my house. They are always sorry to see a queen's head come off.

Dr. Miller—You can rear a queen 3 weeks before swarming time by putting 10 colonies together, but I don't want queens reared from that kind of a colony.

Mr. Dadant—Why?

Dr. Miller—I don't know. You want all favorable conditions. Nectar must be coming in. You can feed, but not as well as to have the nectar coming. You must have warm weather. How many think you can rear good queens 3 weeks before the time that bees will naturally swarm—in this latitude? How many think that good queens can be reared before the middle of May? 3. How many think good queens can not be reared before the middle of May? 6. The middle of May is different in different years.

Mr. Taylor—Can a good queen ever be reared before the middle of May?

Unanimously, "Yes."

OBJECTIONS TO FOUL BROOD LAWS.

"What is feared by those who object to a foul brood law?"

Mr. Dadant—I would like to answer that question. I have been called by the Legislature, or rather by the committee of the Legislature to advise on the matter of foul brood, if it is contagious. I was with the secretary of the Illinois State Bee-Keepers' Association. The member of the Legislative committee held in his hand a letter which he had received in which it was said that bee-keepers will be injured by a foul brood law because the inspector will burn the colonies, and the supply dealers will sell more goods. He did not give the letter-writer's name. In the afternoon we went back and gave the name, as we thought it was. The letter was opened and that was the name.

LEARNING ABOUT BEES.

"What have you learned this year in keeping bees that is any good?"

Dr. Miller—I don't know. How many think you have learned something this year that is any good? 3.

Mr. Taylor—I don't know as it is very new. But it is new to me. Often there is a great deal of question as to how to keep down increase of colonies. When a swarm issued I shook out all the bees from the combs and set the frames on weak colonies with a board between. This is good.

Mr. Chapman—I have learned something new to *me*. Heretofore I have taken extracted honey off the hive and extracted immediately. This year I took my honey off with bee-escapes and set the honey away until late in the fall, and at my convenience I extracted. I kept the honey in a warm room.

Mr. Wilcox—I used to store honey until fall before extracting, but I don't now. You can store it a little while, but it is likely to granulate, especially in unsealed combs. It is advisable not to store it, especially in the fall.

Mr. Wheeler—Did Mr. Wilcox use bee-escapes 25 years ago?

Mr. Wilcox—I used them as soon as described in the bee-periodicals. I don't use them now.

"What have you learned to avoid?"

Mr. Dadant—We have learned to avoid discouragements, because in most discouraging seasons we are closer to success. What I mean is this: That when the bee-business looks at its worst, that is the time when we must learn to take good care of our bees, because the worse off they are the better chance there is for us to succeed. Circumstances will be more favorable. We must avoid being discouraged simply because the bees are discouraged. We had a good instance of that this year. In March we had an early spring, and the bees were in good condition. Then came the frosts, and we lost several colonies. I advised keeping on and taking better care of the bees. We did, and were rewarded.

Mr. Wilcox—If other seasons are like this, we have learned to avoid putting honey-money in the banks!

Dr. Miller—I had pretty nearly given up having any honey at all. The time for clover had passed, and then came a flow of honey, and I got an average of 66 sections to the colony, of the very finest white honey. It was an average of about 60 pounds to the colony.

Mr. Whitney—What sort of honey was it?

Dr. Miller—I don't know. I think it was heartsease.

Dr. Bohrer—There is a heartsease in Kansas that always produces dark honey. You have a different species here that produces light honey.

CLIPPING QUEENS.

"Is there any harm in clipping queens?"

Dr. Miller—How many of you think there is no harm in clipping queens? 18. How many think there is harm in clipping queens when the clipping is properly done? None.

BEE-SPACE OR QUILTS OVER FRAMES.

"Is a bee-space over the frames next to the cover, preferable to the use of quilts there?"

Twelve said "Yes," and 2 "No."

(Continued next month)

Bee Journal for 1907—40c.

We still have on hand some complete volumes of the American Bee Journal for *1907*, which we will mail for 40 cents each. The first half of that year the Bee Journal was issued weekly, and the last half monthly, which would make 32 numbers. And all of them for only 40 cents! Surely this is a bargain for any new reader who has become a subscriber this year.

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Misfortune to a Brother Editor.

Editor E. R. Root has been doing some excellent work at bee-conventions by the use of the stereopticon, and his devotion to this interesting pursuit has cost him a severe injury to the sight of his right eye, if not its permanent loss. Only the fraction of a second looking at a strong arc light at too close range, and then the physicians' order that for some months there must be no reading of proof, printed matter, or manuscript. Truly a privation, indeed, but with one good eye left, Editor Root will no doubt be shortly mounted on the tripod again in good shape, and it will be the wish of thousands that the experts may be mistaken in their forecast, and that the injured member may yet do good service.

Painting Against Robber-Bees.

R. M. Spencer, in Gleanings, says that when robbers become troublesome he paints the cracks with fresh paint of the same color as the hive, also painting alighting-boards and about 2 inches above the entrance on the hive-body. Editor Root says in a foot-note:

"Prof. H. A. Surface, zoologist, in the employ of the Agricultural Department of Pennsylvania, conducted some experiments in the use of paint to discourage robbers that were around the hives, and his experience was about the same as yours. We may say that plain turpentine will answer almost as well; and a solution of carbolic acid and water painted on would also be nearly as effective. There would be one objection to the use of paint; and that is, that the cracks of the hive might get too many coats, giving it a rather bad appearance."

Nucleus Increase.

J. A. Crane says this in Gleanings in Bee Culture:

"When I wish to use a colony for making nuclei I remove the queen, placing her in a cage on top of the frames. I leave her there 3 days, at the end of which time there should be cells started. I then take one frame with a little brood, and place it in a hive of drawn combs; set the colony off its bottom, and place the hive of drawn combs in its place, letting the queen run on to this one comb of brood. Over this I put a queen-excluder, and set the hive of brood on top, and put on the cover. The bees will finish the cells just as well as if the queen were caged for the ten days, and a new colony will be started below, so that, when the cells are nearly ripe, we can take the brood and bees from the upper story, and form nuclei without having to leave a single frame or any of the bees that are on them. If the colony was very strong there will soon be a good working colony on the old stand."

Instead of the queen being caged, if she were put with one or 2 frames of brood in a nucleus for 3 days, there might be a greater certainty of cells being started, and the number might be greater.

Different Kinds of Foundation Sold.

The following interesting facts are given in a Stray Straw in Gleanings:

"The question as to the proportion of thin to extra-thin surplus foundation having been raised, I asked Dadant & Sons what was the proportion in their sales, and received the following very full reply:

"Our sales of foundation last year averaged as follows:

Medium brood—42 percent.
Thin surplus—34 percent.
Thin brood—11 percent.
Extra thin—13 percent.

"From this it will be seen that the thin surplus was 2.6 times as much as the extra thin. The medium brood was 3.8 times as much as the thin brood; the total brood, 13 percent more than the total surplus. Perhaps you might tell us how these figures compare with figures at Medina.

"[We do not keep an extended record of every grade sold during the year; but we have asked the foreman of our department to give a report of it for the last month, and the figures are as follows: For more ready comparison we put the Dadant figures alongside of ours:

Medium—34.	Medium—42.
Light—20.	Light—11.
Thin—30.	Thin—34.
Extra thin—16.	Extra thin—13.

"The difference in percentage here shown may be due to the fact that we advise extra thin for sections, not because the bees take to it better, for they do not, but because we believe it makes a finer grade of comb honey.—Ed.]"

Averill's Plan with Foundation Splints.

B. F. Averill has been wiring combs for 30 years, and using foundation splints for 23 years. He likes splints better than wiring, and they require less time. His plan has some advantages well worth considering. He says in Gleanings:

"My plan of using the splints incorporates them with the frames as well as with the foundation; and thereby I secure a more substantial comb than if incorporated only with the foundation.

"The first essential part of the plan is to have top and bottom bars grooved in the center to receive the ends of the splints. A saw-kerf $\frac{1}{16}$ gauge and $\frac{1}{4}$ deep is the most suitable dimension to adopt. The splints should be $\frac{1}{16} \times \frac{1}{16}$ or $\frac{1}{16} \times \frac{3}{32}$. The latter dimension is better for splints properly built into combs on a good flow of honey.

"The splints are $\frac{1}{4}$ inch longer than the distance between the top and bottom bars, inside measurements. Waxing is best, but may be dispensed with in a good honey-flow.

"To wax the splints, take a dozen or two at a time between the fingers and twirl them in a vessel of hot wax. A little practice will develop the requisite skill. It is not necessary to wax the *entire length* of splints. There will never be any gnawing of foundation around the splints *near the top-bars*. It is at the bottoms of combs being built that all the cutting-out is done.

"So you can leave two inches at one end of the splints safely, and the waxing is a small job comparatively. Just stand the splints on end in a leaning position until you have enough supplied for the foundation to be used that day, or a week or month later.

"Now, in putting in the foundation you have two inches of unwaxed splint to handle them by. Take hold of this portion and insert the waxed end in kerfs in the bottom-bars, and *spring* the splints into the top-bars. That is the whole process. Now, by using eight splints there is no need of *fastening* foundation to the top-bars. This saves much time, and all that is requisite to success is to be *sure* the foundation fits *close* to the top-bars. If bottom-bars are not of good thickness to support the weight of heavy combs, there is going to be sagging sooner or later. I would advise gluing in a splint to the top and bottom bars through the center of each frame. This unites the top and bottom bars at the center of the combs, and no sagging of combs is possible.

"For imbedding splints I use a small wooden roller. Imbed the foundation by placing the splints on the bottom of the foundation and the roller at the top. It is easy work compared to wiring, and a much greater amount of foundation can be stayed in the same length of time."

Those Who Have Honey to Sell.

Bee-keepers will soon be marketing their honey. At this time it seems proper to reiterate our annual caution *where* one ships. If the honey is sold outright he should be sure that the party to whom it is consigned is responsible. Let him go to his bank and have it look him up. If he can get no information he should require cash in advance or ship by freight C. O. D.—that is, send a bill of lading to some bank where the customer is located, requesting it to collect the cash before the goods are turned over.

Some argue that, if a house is not responsible, it is safe to send the honey on commission because the consignee can be arrested and jailed if he does not make returns; but if he is dishonest there is nothing to prevent him from making very meager returns, leaving the burden of proof on the producer to show that they are not entirely adequate for the quality of the goods. To do

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this requires the aid of an attorney and due process of law; and on small shipments the commission man knows it will cost more than the amount involved.

As a rule, bee-keepers should deal with only reliable commission men—particularly those who furnish regular quotations for the bee journals; and in every case where possible one should sell outright. If the goods are fancy or No. 1, and the house is reliable, a cash sale can usually be effected, for the business is getting to be done more and more on a cash basis.

In case one has a lot of off-grade honey—dark or otherwise inferior goods—it may be necessary to sell on commission. Such lots are usually disposed of in that way, for no house will buy outright a shipment of that kind when it does not know what it is, much less how much it will bring in the market.

As we said before in these columns, all dark or inferior-flavored honey should be taken out with the extractor. Nothing but the very best *table* honey should be marketed in sections, and even then all No. 2 should be sold around home.

It is well for the novice to understand that old producers who deal *on the square*—that is, sell their honey for just *what it is—and offer only first-class* goods, have no difficulty in making cash sales and at good prices—usually above the market. The dealer has come to *know* them for their square dealing, and he has no hesitation in entering into a cash deal, and not infrequently wires his acceptance of the quotation. In the case of some producers the honey is sold before it is actually off the hives.—Gleanings in Bee Culture.

Boardman-Alexander Feeder.

In order to increase the capacity of the Alexander feeder, Harley Condra puts a Mason jar over the projecting end, Boardman fashion.—Gleanings in Bee Culture.

Prevention of Honey-Granulation.

Mr. Beuglas gives particular attention to his honey after extracting, and by careful storing and covering, preserves the aroma that others, who are careless, allow to evaporate. He says his customers want honey that will not granulate. This he supplies. By heating the honey immediately after extracting, to 140 degrees, he is able to assure his customers that the honey will not granulate. The following is what he writes on the subject:

"According to my experience and observation, if honey is heated immediately after it is extracted, the results obtained will be much more satisfactory than if left for a week or so before being put through the heating process. Much care should be exercised in the heating of honey, which should not exceed much over 140° Fahr., and a gentle motion kept up by stirring, so that it may be evenly heated. I would further conclude that the granulation process commences the very day honey is extracted. By the immediate application of heat, granulation is evidently practically prevented."—Canadian Bee Journal.

Clipping His First Queen.

H. A. Smith, in the Canadian Bee Journal, gives the following interesting account of his maiden attempt at clipping a queen:

"It was a great wonder I did not kill the first queen I tried to clip. I had always worn harvesters' pig-skin mitts when working with my bees; I clearly saw that I must discard them if I wished to succeed in doing those numberless things which grow to be a necessity as one's apiary enlarges. I therefore got a pair of fingerless gloves, and proceeded to clip my first queen. I had to screw my courage up to a terrible pitch to handle those bees with bare fingers in looking for the queen. At last I found her, and managed to catch her between thumb and forefinger. My hand shook; my fingers spread apart; and her majesty dropped to the ground. It was not such a hard job taking hold of her, now she was away from the rest of the bees, and so I lost some of my nervousness. I clipped her wing without receiving a sting during the whole operation. Before night I had opened hives which were nearly search-proof and clipped their queens."

Let me say to the beginner who has not yet clipped his queens: Clip 2 queens if you nearly collapse in doing so; after that you will want to clip everything in sight."

Honey vs. Sugar for Cake.

"If we bake a cake, using honey for sweetening, and keep the cake a year, or until it loses its sweet taste, we will see that, as the sweetness disappears from the center, it approaches the outer surface and escapes into the atmosphere, and the cake becomes insipid at the center first. Now if sugar is used instead of honey, the insipidness begins on the outside first, and the tastelessness runs deeper and deeper, until it reaches the middle of the cake. Will the reader please explain the cause of the different behaviors of the sugar and honey? Also why does the sugar cake become stale in 2 weeks, while it takes the honey cake 6 to 10 months.—C. W. Dayton, in American Bee-Keeper.

Suppress Swarming and Help Honey Crop.

Wm. McEvoy, in the Canadian Bee Journal, tells how he proceeds to check swarming and secure the largest crop when working for extracted honey. Editor Hurley says:

"For the last two years we have followed this plan ourselves—having received the hint from Mr. McEvoy—and we can truly say that its results are surprising."

Here is the plan as given by Mr. McEvoy:

"When the right time comes to put supers on all strong colonies, I lift a comb of brood up into the super and leave the queen-excluder off just then so that the queen can go up—a thing she will quickly do, and in a few days the super will be filled with brood. I then raise this super up and put on another one, but before doing this I lift up 2 combs of brood into it. Shake the queen below, and then put on the queen-excluder. In about 6 days later I lift up 2 more combs and put 2 empty combs in their place, for the queen to use, as she will by this time be found wandering over the combs of brood, hunting for cells to lay in. The lifting up of brood and the putting of empty combs time after time in the center of the brood-chamber brings a greater increase in bees, and has always given me much larger returns in extracted honey than I could ever get any other way.

"We will now turn our attention to one of the most valuable parts of all, and that is the brood I lifted above the queen-excluder where it was *fed so well* and left there until *all capped*. In the fore part of the season I take part of this *fitted-up brood* from one super and part from another until I get enough to suit me and then tier it up here and there on colonies not so strong, and have it all hatched out on these in a few days without the loss of one cell of brood. This booming of several colonies with so much *all-capped brood* builds them up so fast that when the real honey-flow comes on I don't find much difference in any of the colonies in the whole apiary.

"Bees run this way work with much more vim, snap and life than I could ever get them to do under any other system. Of course it will be noticed that I run the queens for all they are worth—a thing I certainly do—and with the exception of a few very choice queens I requeen every colony every year."

Early Spring Feeding of Bees.

G. W. Avery, in the Irish Bee Journal, makes some sensible remarks that apply as well here as in Ireland. He says:

"If bees *must* be fed any time in early spring, the owner should bear in mind that the method which causes the least disturbance is the one above all others to adopt. Combs of sealed honey, which are like money in the bank to the bee-keeper, and should always be on hand, are far and away ahead of anything else. Next to that, well-made candy is the best, and enough should be given at a time to last for several weeks, if possible, in order to avoid disturbing the bees too often, especially in cold weather.

"The best, and I think the only good way to spring stimulate, is begun the previous autumn, by sending the colonies into winter quartres with abundance of stores. Not simply just what is thought about sufficient to carry them through, but rather than err on the side of scarcity, let them have an extravagant allowance. Just enough is never enough to winter a strong colony well."

Henceforth I will not be bound by the Slavery of Fear because the man around the corner is always more frightened than I am, even if he doesn't show it.—*Arries.*

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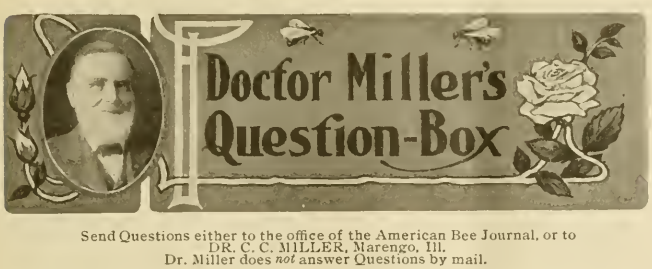

Send Questions either to the office of the American Bee Journal, or to
DR. C. C. MILLER, Marengo, Ill.
Dr. Miller does *not* answer Questions by mail.

Spring Dwindling and Pollen.

Did you ever see a case of spring dwindling where there was plenty of pollen in the hive?
ILLINOIS.

ANSWER.—I don't know. Sorry to say I never gave the matter any attention. Why didn't you tell us the result of your observation?

Prevention of Robbing.

I would like to know the best way to stop up the hives and prevent the colonies from robbing each other.
IOWA.

ANSWER.—The very best thing to prevent robbing is to keep all colonies strong and provided with good queens. A queenless colony is likely to be a point of attack for robbers, especially if weak. Close up all cracks about a weak colony in danger from robbers, and leave the entrance large enough for only one bee at a time. Piling up hay at the entrance and keeping it wet with water helps to keep robbers away. If robbers have got started, you might try painting cracks and entrances with a strong solution of carbolic acid applied with a paint-brush.

Virgin Queens—Swarming.

1. How long will a virgin queen be safe in a cage if ordered through the mail and introduced to a full colony, and become fertilized?

2. When a swarm issues which alights first, the queen or the bees?
KENTUCKY.

ANSWERS.—1. At one time I had 2 virgin queens sent me by mail from England, which were introduced, fertilized, and did good work. Whether they could have been caged longer I don't know.

2. There is no fixed rule about it. I never heard of a queen alighting before any of the workers, although such a thing might happen. When a swarm issues, the queen is more likely to be among the last than the first, and probably the same holds as to settling.

Disposing of Big Drones.

I have a colony of bees that has cast 2 swarms this year, one extra large from 6 frames, and one medium size. Now in the old hive there are a large number of bees about three times as large, and I believe some will make 4 of the workers. They do not work. Is it possible that they are drones? At times the colony, or rather the large part of it come out, and around and around they go and we often find 2 or 3 of the large bees dead afterward, and many are carried out dead. The workers work well. I have often counted 19 at one time in back of the hive. The large ones, if drones, take the ribbon for size. What do you think about it?
NEW JERSEY.

ANSWER.—Drones and queens are the only bees in the hive larger than workers. As you would hardly find 19 queens at the same time in one hive, they must be drones. The colony swarmed twice, its young queen is fertilized, and now there is no more need of drones, and the workers are disposing of them.

Do Early Southern Queens Prevent Swarming?—"Dudley Tube."

1. One apicultural writer claimed that he got queens from the south early in the season and introduced them to colonies, and by this means averted swarming. Has this been your experience?

2. Have you noticed the description of the Dudley Tube, by Atwater, in the Review of last August? Have you tried this scheme? Do you consider your method for the prevention of swarming, as outlined in the March American Bee Journal, superior?
MINNESOTA.

ANSWERS.—1. I have had no experience in getting early queens elsewhere. W. Z. Hutchinson says it is a success, and he has tried it on a large scale.

2. I have had no experience with the Dudley tube, so I am not in a position properly to conpare the two methods.

Preventing Swarms from Swarming—Second-Crop Red Clover—Late Requeening.

1. How can I prevent the first swarms that come out from swarming again? I think they have plenty of room, for after storing one super of honey, they do not work in the second super as they should.

2. Would 2 supers placed on the brood-frame at the beginning of their work, help the matter any?

3. I tried hiving new swarms on the old stand and moving the parent hive 10 feet away, but they fight. Is this natural, and can I prevent it in any way?

4. Will a second crop of red clover afford boney?

5. Can I introduce queens to advantage in September?
VIRGINIA.

ANSWERS.—1. When a swarm is hived, gets to work, and a few weeks later sends out a swarm, it is called a virgin swarm, and is not at all common. There is no special treatment that will prevent a virgin swarm except such as tends to prevent a prime swarm—room, ventilation, and perhaps some other things. You say, "after making one super of honey, they do not work in the second super as they should." That sounds as if they *filled* the first before getting the second. When the first super is about half filled—sooner if they are storing very rapidly—put a second super *under* the first. That will make sure of their working in the second, and will also tend to prevent swarming.

2. Yes, only it is perhaps as well to let them have at least a start in one at first.

3. Never heard of such a thing before, and don't know how to prevent it.

4. Yes, but the question is to have the bees get it.

5. Yes.

Italianizing Colonies — Finding Queens—Introducing Queens.

1. I am a beginner in the bee-business. I have 4 colonies and have just introduced an Italian queen into a nucleus which will give me the fifth colony. I have the latest edition of "A B C and X Y Z of Bee-Culture." I wish to Italianize all my colonies. When will he the best time to do so? Our largest honey-flow is in July. Would it be advisable for me to purchase enough Italian queens to introduce to all my colonies, or can I do so by introducing cells from my Italian colony?

2. I have trouble in finding the queens of the hybrid colonies. Would it be safe in dequeening the colonies by shaking all the bees in front of the hive, having placed a bee-entrance-guard in front of the hive, or is there danger of the queen going through this entrance?

3. How soon after destroying the old queen should the new one be introduced? What would be the best way for me to introduce a queen?
MINNESOTA.

ANSWERS.—1. You can Italianize at any time, but it will likely interfere less with the honey crop if you wait till toward the close of the flow. You can use a cell from the Italian colony.

2. Yes, you can sift the queen out with entrance-guard.

3. Better not destroy the old queen before introducing. Put the new queen in the hive with the candy in the cage fastened so the bees can not get to it. In 2 days remove the old queen and let the bees at the candy so they can release the queen.

But if you use cells, you must make your Italian colony queenless so as to get the cells. In 8 days remove the old queens. Two days later (10 days after making the Italian colony queenless) give a ripe cell to each colony.

Sweet Clover for Honey and Hay.

I have about one-tenth of an acre of sweet clover that is very fine, and in full bloom. How can I manage to save the seed, for I want to save all the seed from it that I can? The bees are swarming in it all the time. It is as high as my shoulders. Can I mow it for hay for stock? Does stock like it, and is it good for horses? My cattle eat it as soon as they get to it. If it is good for all kinds of stock, I want to sow it extensively for my stock and bees. The bees are doing well. I have 52 colonies, and they are gathering the honey.
TEXAS.

ANSWER.—Sweet clover is good food for any kind of farm stock. Some complain that their stock will not eat it, but they must become accustomed to it. Horses that are not used to it are likely to eat it better dry than green. If left till it blossoms, so that the bees can work on the bloom, the stalks become too coarse and bard for hay. If, however, it be cut some time before the regular time for blooming, it will start growth again, blooming a little later. Of course, where it is wanted for seed, you will get more seed by not cutting it for hay at all. Sweet clover is a biennial, coming from the seed the first year, blooming the second year, and then drying root and branch. Some cut it for hay the first year. The seed may be sown fall or spring, and it seems to do best to have the seed tramped down in hard ground. To save the seed, cut before all the seed is ripe, say when the first seed begins to shell off, let it lie and dry, then thresh out.

Making Hives — Bees Near Street—Rearing Queens — Space Under Bottom-Bars—Sweet Clover.

Chronic asthma has "put me on the shelf," so far as professional work or other steady, active employment is concerned. Incidentally, my income almost ceased as a result, until finally I was induced to go into the bee-business, which I did with one colony. The second season I captured 18 swarms from which I made 10 good, strong colonies. I lost 2 from ignorance, and now have 9, all in good condition, so far as I am able to judge.

As I am handy with tools and have a good place to work, and have a buzz-saw on the way to which I can hitch a 2-horse-power gasoline engine, I have been making hives. I got hold of the Danzenbaker hive the first thing, and while it has too many parts to suit me I will be obliged to continue using it, as I have brood-frames for 30.

I wish to continue making hives, but now want to know what I am doing. I have no cellar or place for one, and am therefore compelled to winter the bees out-of-doors, and want to make a hive which will be warm enough for a fairly strong colony with sufficient stores. I have an ideal location, with a grove ½ of a mile from my yard, white clover, basswood, dandelion, wild cherry and grapes—in fact an abundance of feed, and I want to take advantage of it. I desire to have 10, 50, 60 colonies—all I can attend to in a yard 40 x 70 feet.

I like the work very much, like to experiment, but I do not care to invest in a lot of hives that I should have to change, therefore the following questions:

1. If I make a hive with a 2-inch space packed with chaff, and a cover for the same, covered with galvanized iron, will such a hive properly sealed down keep the bees? Should I use a bottom-board with inch rails, or would rails ⅞ high and as wide as the walls be better? I can make the walls any thickness, if 2 inches is not enough. I propose to use ⅜ and ½-inch stuff for walls, getting the lumber from boxes which I borrow, beg and acquire from the local stores. Will I gain anything by making the supers the same way, namely, with 2-inch chaff walls? So much is written about the supers in the early part of the season, and as I am not able to do all this work, I want to use a warm super if I can make them this way, and possibly use the supers for "divisible" hives

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late: on, if by study I find that it is a good way to get comb honey.

My apiary is right in town. We have a population of about 100. Incorporated. There is a little complaint. In case the objection becomes serious what defense can I make? At present my hives are 30 feet from the sidewalk, and 40 feet from the street. Neighbors who pass and repass many times a day and within 6 feet of one hive do not complain, but one farmer claims the bees bother his horses.

3. Would there be any objections to boring holes on four sides of a hive to open into spaces which will take 2 frames each, separated by bee-tight partitions, so that I can rear 4 queens at once by putting frames with eggs in them and putting an excluder under all? Or would you have queen-excluder partitions? I might not feel well enough to look after the newly-hatched queens at the right time, and fear they would fight through the excluder.

4. I think I read somewhere that you said you wanted a 2-inch space under bottom-bars winter and summer. Is that correct? If not, what space shall I leave under the bars as a permanent arrangement? With my queens clipped, what difference does it make if the bees do build down? Do I have to be hauling out the brood-frames to look at them, especially as they are all filled with worker-combs?

5. In the Danzenbaker hive, if the end-wedges are in place of what use are the springs? And if the springs are used, of what use are the wedges?

6. If sweet clover is planted this spring, may I look for much of it to blossom this year?

7. With sweet clover planted 16 square miles, a pinch of seed here and there, will it be worth while to put in crimson clover? I have all of the railroad right-of-way to cultivate, without asking consent. Iowa.

Answers.—1. Such a hive would probably work all right. I am sorry to say that I am not entirely certain yet whether bees will build down in a 1-inch space. If they do not, then 1 inch under the bottom-bars is better than ⅞. I *think*, however, that they will not build down in the 1-inch space. I prefer, however, and have for several years used, a bottom-board with not merely a ⅞ or 1-inch space, but with a 2-inch space. During the time of year when there is any danger of bees building down into this space, I put in a rack that is ⅞ below bottom-bars.

I don't know, but I have some doubts whether it will pay to have your supers with double walls. Still, it might be worth trying.

2. As a first precautionary measure, become a member of the National Bee-keepers' Association, if you have not already done so, and get from General Manager France printed matter on the subject. A fence of some kind between the hives and the street will be a good thing. It is probably better to have it close to the sidewalk rather than close to the hives. Make it high enough to clear the heads of passers-by, 6 feet or higher. If at a place where a board fence would appear unsightly, you can have a fence of wires or poultry netting covered with vines that will be ornamental.

Above all else look out for the character of your bees. There are bees that would never disturb persons passing within a rod. Again, there are bees that will volunteer an attack at more than 10 rods from their hives. If you find any colony that is cross, pinch its queen's head off, and replace with a queen of better disposition.

3. Your scheme of partitioning the hive into four compartments, a 2-frame nucleus in each compartment (it must be a 10-frame hive to take the 8 frames) is all right. I've reared many queens in this way. Of course, the cells must be started and sealed in strong colonies. The partitions should be thin boards, not excluders, with no sort of communication between the different nuclei. You say "putting an excluder under all"—that sounds as if you mean to put your nucleus hive over a full colony, the bees of the colony having entrance to the nuclei through the excluder. I think others have reported success with this, but I must confess failure.

4. As explained in a previous answer, I strongly prefer the 2-inch space. Gives a nice lot of air—a good thing at all times. If the bees are allowed to build down, that will take away nearly all your space, with whatever advantages it may have, for the bees will build down within perhaps ¾ inch of the floor. Besides, your combs will very likely no longer be movable, as the bees just as like as not will build from one comb to the next.

5. I don't know.

6. Sweet clover is a biennial, coming from the seed first year, blooming and producing seed the next, then dying root and branch. C. A. Green, however, gets it practically into one year's time by sowing the seed as soon as it ripens, so that it makes its first growth during the remainder of the year, blossoming the next. This may, however, be yellow sweet clover, which matures seed considerably earlier than the white.

7. I don't know. I think it might; for crimson sown in the fall blossoms next season, if I am not mistaken, earlier than sweet clover.

Some Various Kinds of Bees—Transferring—Comb and Extracted Honey in Same Super.

In the enclosed box are a moth and a bug. I can also find a small white egg. The bug and moth seem to feed on the pollen in old combs. I can see no web.

1. What is the bug and moth?

2. What is the difference between the golden, red clover, and leather-colored Italian queens? Is it the color only?

3. Could bees be transferred to modern hives now? and would I lose much honey by so doing?

4. In running for both extracted and comb honey in the same super, how is the fence held tight against the section next the frame? Mine is a Danzenbaker. New York.

Answers.—1. I'm not an entomologist, but I suspect the specimens sent are one and the same thing in different stages of their being. I don't think they belong in the list of bee-enemies, never troubling live bees, but feeding occasionally upon unprotected pollen. I think I've seen the same thing on dried beef and other foods.

2. The distinction is perhaps not always kept very clear. A red clover queen is one whose workers are supposed to visit red clover more than other bees, and may be golden or something else. A golden queen is one whose workers show all, or nearly all, yellow bands. Leather-colored are those which are 3-banded and rather dark.

3. When the colony swarms, hive the swarm in a modern hive, putting it on the old stand with the old hive close beside it. Twenty-one days later cut out the combs and add all the bees to the swarm, unless you want to have another colony, in which case you will transfer bees and comb to another hive.

4. I don't think any one runs for both kinds of honey in a Danzenbaker super.

Heat May Have Caused Swarming Out.

I hived a swarm of bees a week ago, and they went to work and drew out their combs and stored honey, and to-day (June 20) they swarmed out and left their store and the eggs the queen had layed. I had the hive on the ground with a large entrance. Was there too much ventilation? I have kept bees a long time and never saw anything like this before. Illinois.

Answer.—No, surely not too much ventilation; more likely the great heat.

Building a Honey-House — Storing Comb Honey.

1. We intend to build a 2-story honey-house, including basement, at the bottom of the northern slope of a small hill; the 70-colony apiary is located at the side of this hill, southeast from the location where the honey-house is to be built. If the dimensions of the building are to be 24 feet long by 14 feet wide, how high should it be? Also, please state how you would arrange the building, giving the size and number of windows, doors, etc.

2. Is it advisable to store comb honey at this time of the year in an attic? The attic is very light, but somewhat hot. Illinois.

Answers.—1. Nine feet high for the first story and 7 for the second will work well, and 8 for the cellar. An outside door to enter the center of one side, with a stairway facing it. First story in 2 rooms—one for storing with one window, the other for workshop with window at each of 3 sides. The stairway can be in the storeroom, so the workshop can be easily kept warm in cold weather.

2. Yes. It can be none too hot.

What Became of the Honey?

On the morning of the 3d I put out about 5 pounds of old honey for my one colony of bees, and they went to work at it with a will, and late in the afternoon they sent out a big swarm; I hived them on 10 full sheets of foundation. Yesterday morning I placed them where the old hive had stood, and moved that one about 25 feet, and put out more honey, hoping to draw all the field-bees from the old hive, and I seemed to succeed well, and this morning (June 5) I put out more, and it was all gone before noon, at which time I opened up the hive to see how they were doing, and imagine my surprise at finding not one drop of honey in the hive. The queen had commenced to lay, the hive was packed with bees, and they had some bee-bread. What could they have done with all of that honey? Nebraska.

Answer.—I don't know. One guess would be that bees from neighboring colonies carried off part of the honey. But that guess is hardly necessary. The first part of the answer is easy: They carried the first 5 pounds into the old hive. When they swarmed, they took with them a sacful each, and the only trouble is to tell what became of the honey they took afterward, seeing each bee was already filled, and seeing no honey was in sight in the hive afterward. It might not be a wild guess to say that although each bee had its sac well filled, some of the bees might still load up a little more heavily, taking some of their neighbors' loads, these latter unloading so that they could bring in the honey you put on the 4th. Bear in mind, too, that a large force of bees was engaged in secreting wax, thus using up honey rapidly.

Diseased Brood.

I live in a locality that is full of brood-disease. My bees have it. One summer I cure them and the next it will show up as bad as ever. Suppose a person moves his bees this fall to a place where there is no disease, do you think he could cure them, being careful not to have any robbing? If you were in my place how would you do it? Indiana.

Answer.—Rather a tough problem. Hardly the right thing to take diseased bees in a healthy locality. If the number is not large, it would be better to buy a start of thoroughly healthy bees in the new location. Otherwise you might pretty safely get rid of the disease this summer by the McEvoy plan, throwing the bees on comb foundation, and trust to the closest kind of watching to forestall any outbreak next season.

Best Honey-Producing Plants.

Suppose that all honey-producing plants, flowers, brambles, trees, etc., of the North Central States were in great abundance near your apiary at March 1st. Of these, please name in rotation, the 10 plants which you consider best for your bees; taking into consideration the markets, also the quantity, quality the demand for certain flavors, etc., of honey. I would like to have them named, as for instance: 1st, white clover; 2d, buckwheat, etc. Subscriber.

Answer.—I don't know enough to answer your question, and don't believe I could answer it if I should spend a whole year at nothing else but trying to find the answer. Asparagus is visited by the bees, but there is no way that will tell anything about the quality or the quantity of honey that might be obtained from it if it were in great abundance. Of those that I do know something about, I don't know enough for a certainty as to be sure about placing them in their right order, but it might be something like the following: White clover, linden, (basswood), alsike clover, dandelion, fruit-bloom, yellow sweet clover, white sweet clover, heartsease, buckwheat.

Swarms With Clipped Queens—Salt for Bees—Best Section—Wiring Frames—Introducing Queens—Wood Splints for Frames.

1. How do you manage a swarm of bees with a clipped queen? How do you hive them?

2. I have heard old bee-keepers say that bees must have salt. Is that so? If it is so, how do you feed it to them?

3. Which is the best section to use, plain or bee-way?

4. Which is the best way to wire brood-frames?

5. Give me full instructions for introducing a queen.

6. Is there nectar in potato blossoms? If there is, won't spraying the potatoes with paris-green kill the bees?

7. Can you buy splints for brood-frames ready made? If so, where? If not, give directions and size for making. New York.

Answers.—1. Look on the ground for the queen as the swarm comes out; she may be among the first, but more apt to be among the

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last; cage her; move the hive a few feet from its stand and set the empty hive in its place, putting the caged queen at the entrance. In 5 minutes the swarm may return, but more likely 15 (I've known a swarm to stay out an hour, but that's extremely rare), and the bees will enter the empty hive of their own accord. Any time while they are going in, or after they have gone in, let the queen run in at the entrance. Then you can set the old colony close beside the swarm, unless you prefer it to swarm again.

2. I don't know whether they need salt. Not because I think they need it, but to keep the water from smelling bad, I put salt in their watering-tub.

3. Preferences differ; I prefer the bee-way.

4. Three horizontal wires. Not certain just what is best distance; perhaps this: upper wire 1½ inches below the top-bar, next 1½ farther down, then 2 inches farther down.

5. Generally full instructions for introducing come with the queen, which will be something like this: Put the cage between the combs or directly over them, not allowing the bees to get at the candy; 3 days later remove the old queen and give the bees access to the candy so they will liberate her.

6. Doubtful if there's any danger. I don't know that bees work on potato blossoms.

7. You can get them from the A. I. Root Co., ready made.

Transferring Bees from Box-Hives.

I have about 25 colonies of bees. They have been out on shares for 8 years, and for the last 4 years they have not increased any, and my one-half of the honey was not enough for my family of seven. So I thought I would take them home and see if they will not furnish enough honey for the family. I have never handled any bees, and would like some information. I find that some of the hives have lath nailed across instead of frames, and those that have frames have not enough, and the bees have built the comb in all shapes, so there is not a hive that I can get the frames out of. How can I get them in shape, or will they be all right as they are? Some of the bees are in old store boxes. One of my neighbors advised me to make new hives and put frames with starters in them, and put them under the old hives so that the bees would have to go through the new hive to get to the old hive. He said they would fill up the new hive with brood-comb and fill the old comb in the old hive with honey. What do you think of this plan? If it is not good please suggest one.

ANSWER.—Yes, if you set a box-hive, or any hive with crooked combs, over an up-to-date hive, in any fair season the bees will build down and occupy the lower hive, filling the upper one with honey. But the honey will not be in the most desirable shape, being in old black combs. You can do another way. Wait till the colony swarms. Hive the swarm in a movable-frame hive furnished with worker-comb foundation, setting the swarm in the place of the old hive, the old hive close beside the swarm, and 3 weeks later add the bees of the old hive to the swarm, and melt up the combs.

Increase—Swarming—Taking Off Supers, Etc.

I am a beginner. I have 2 colonies of Italian bees which came through the winter fine. About June 1 I put a super on one that seemed to be overflowing with bees. June 10, about 11 o'clock, it swarmed and alighted in a little basswood tree. I left it there 1½ hours. There were still a few bees flying around it when I cut the top off and shook the bees off in front of a new hive that had starters of foundation in. As soon as the bees were in I took the hive and set it on the old stand, and left it for about an hour. When I came back they had left the hive and settled in another tree where I left them (thinking I had not left them long enough before) for an hour, when I came back and they were gone.

1. Why didn't they stay in the new hive? What was my mistake? How do you get a swarm into a hive? I would like to clip the wing of the queen but don't know how to do it, or where to find her.

2. I want to increase my colonies as fast as possible. How can I do it without buying queens or taking cells from another hive? What is the best and cheapest way?

3. Describe and tell how to know a queen or drone cell from a worker-cell.

4. Does it hurt the brood to open the hive in cool, damp weather?

5. Should the swarm be left where it settled until there are no bees flying around it?

6. About what time should the supers be taken off in the fall in order to get the colonies strong for winter?

"NEW SUBSCRIBER."

ANSWERS.—1. Your most serious mistake, probably, was in not having studied carefully some good bee-book in advance. That one swarm would have paid for several books. Your next most serious mistake was in waiting 2 hours to hive the swarm when it came out the second time. At this distance one can not be sure why the swarm came out after being hived, but it is a pretty safe guess to say it was on account of the heat. When a swarm is first hived, it is well to shade it in some way, if the hive is not already in the shade, and abundant ventilation should be given by raising the hive from the bottom and by leaving the cover partly off—no harm to have the cover shoved forward so as to leave a space of an inch for the first 2 or 3 days. Also, some give a frame of brood to the swarm to hold them.

2. Perhaps natural swarming may suit you best. You may hurry up the swarming, as well as to make some colonies swarm that would not do so if left to themselves, by proceeding in this way: When a colony swarms, set the swarm on the old stand. Remove the old hive, and set it on the stand of some other colony, removing this latter to a new place. In about 8 days, more or less, a swarm will pretty surely issue from the old hive again. You will set this swarm in place of the old hive, setting the old hive in place of some other colony, this latter to be set in a new place. In 1, 2, or 3 days, a swarm will likely come from the old hive again, and you will treat it in the same way as the other, and so continue as long as any swarms issue. You see that when you put the old hive in place of some other, it gets the flying force from the one that is removed, and being thus strengthened, it is likely to swarm so long as any extra queens are left.

3. Lay a rule on the cells. If they measure 5 to the inch, they are worker-cells; if 4 to the inch, they are drone-cells; if larger, they are queen-cells.

4. There is danger of chilling the brood if it is too cool for bees to fly freely.

5. No; just as soon as nearly all the bees have settled, so that you are sure of the queen, the sooner you hive the swarm the better.

6. Comb-honey supers ought to be taken off as fast as the sections are finished; extracting supers as soon as the harvest is over.

Dented Queen—Difference in Bees—Perhaps Bees Deserted.

1. I have a colony of bees which had an elegant queen. The colony increased so fast that I was afraid it would swarm. One day my friend and myself looked into the hive, but to our surprise we found 3 or 4 empty combs and a patch of unsealed brood about as big as your hand. The other frames contained the nicest-looking sealed brood you ever saw. I sent for a queen. In a little over a week she arrived. We found the old queen was there, and to us she looked as if her abdomen was not straight with her thorax. What was the matter with that queen?

2. During fruit-bloom I clipped the queen's wings and in a few days I looked into the hive, but noticed no unsealed brood, and 3 queen-cells. I think the bees balled her after clipping. I looked in several days later and noticed that the queen was out of the cell, and that the hive was very populous. I then waited until I was sure the new queen was laying, but from the appearance of things when I looked, I concluded they had swarmed out. There were a good many bees in the hive, so I sent for a queen. I ran the bees through an excluder, but found no queen. My bees are over a mile from where I live. Why did they swarm out when there was nothing for the remaining bees to rear a queen from? Did they think I would give them a queen, or what did they think?

3. There is something the matter with my other colony. When it came through the winter it was very weak, and in early April I got a tested queen from the South for the colony. Now (the middle of June) there are 4 frames with no brood or honey in them. The other frames contain brood, and most of them are full. My friend got a queen at the same time, at the same place, and put it in a colony as weak as mine. Now that colony has stored nearly a superful of honey. What is the matter with that queen? The bees increased quite a little and then stayed about the same in strength. I use the Danzenbaker hive. Do you suppose what J. E. Crane says in June 15 Gleanings, on page 747, has anything to do with it?

4. My friend had a very large Italian colony. He put a hive-body full of empty comb on the hive which the bees were in, with a queen-excluder between. In a few weeks he shook the bees and queen into the top one, and put on a super. He looked all through the hive-body with the brood in, but was positive there were no queen-cells. He put this on a weak colony. The next day the bees swarmed out. They left a lot of bees in the hive, but they did not have any brood to make a queen of. He put in a frame of brood, and they made some queen-cells. Before he did anything with them they had 2 hive-bodies with the queen in the lower hive. Afterwards, they had a hive full of empty comb with a super. He uses the Danzenbaker hive. Why did those bees leave the hive? The swarm alighted in the top of a 30-foot oak which was in his neighbor's yard. I sawed the limb off, but the bees went back on another limb in the top of the tree, and as he did not want to spoil the tree, he had to let them go.

5. My neighbor has about 25 colonies of bees, and the other day 2 swarmed. He did not know which hive they came out of, so he hived them and set them any place. The next day there was about a quart of bees in each hive. He did not know whether the queen was in with that quart of bees or not. Did the most of the bees go back to the old location, or what became of them? I WA.

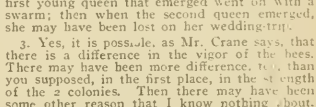
ANSWERS.—1. Hard to tell. Some accident may have befallen her. There may have been nothing that hindered her from still doing good service. I have known a number of queens with abdomens dented, or a little crooked, that were good queens.

2. There being more than one queen-cell, the first young queen that emerged went on with a swarm; then when the second queen emerged, she may have been lost on her wedding-trip.

3. Yes, it is possible, as Mr. Crane says, that there is a difference in the vigor of the bees. There may have been more difference, too, than you supposed, in the first place, in the strength of the 2 colonies. Then there may have been some other reason that I know nothing about.

4. If I understand, the bees swarmed after all their brood was taken away. It seems like a case of desertion, the bees leaving because in some way dissatisfied with their premises; only in that case one would hardly expect them to leave a lot of bees in the hive. Perhaps, however, the bees left in the hive were those that were in the field at the time the swarm left.

5. Yes, they may have gone back.



Bees Hustling Now.

I am very busy now. Bees are doing splendidly on white and alsike clover, with basswood just opening. G. M. DOOLITTLE.

Borodino, N. Y., July 2.

Hopeful Bee-Keepers.

Bees wintered better than usual with me. The clover prospects are also better than usual and I am hoping for a fair honey crop. Bee-keepers always hope. While the season here is about a week behind the normal, it has not been very cold since the first of April, and nothing has had a back-set.

OREL L. HERSHISER.

Kenmore, N. Y., May 14.

Brood-Rearing in Winter—Bees Wintering on Full Combs of Honey.

Noticing the discussion on page 170, between Messrs. Byer and Poppleton, I can scarcely refrain from "butting in" the least bit. In regard to brood-rearing in winter—while mine has been wholly out-door experience—it has been the most common experience to find capped brood in March, and not uncommon in the month of February. My bees are wintered in what is known as the "chaff hive."

In regard to bees not wintering so well on full combs of honey or nearly so, as on dry combs to cluster on, also referred to by Mr. Byer, I would like to "chip in" just a word. It has been pretty well agreed among Northern bee-keepers, I think, that it's pretty difficult to freeze a colony of bees if they are

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clustered on good honey, or have it over the brood-nest. It has not been an uncommon thing for bees to die from starvation with plenty of honey in the hive, so far from the brood-nest that in their chilled condition they could not reach it; but, put them on it; or under it, and I'd not pay a penny to insure successful wintering. WM. M. WHITNEY.

Evanston, Ill., July 4.

Rolling in the Honey.

Bees are rolling in the honey. We hope to have a better yield this season than last.

Gnadenhutten, Ohio, June 24. J. HECK.

Never a Better Honey Flow.

We never had any better honey-flow than at the present time when the sun shines. We have had lots of wet weather the past spring. White clover is everywhere and there is also a heavy basswood bloom to come in about 10 days. I have 50 colonies with natural swarming, so I have my hands full some days.

Fairfield, Iowa, June 20. L. W. ELMORE.

Bees Doing Best for Years.

Bees in this locality are doing the best I have known for several years. There is an abundance of white clover, and the bees are in the midst of the swarming season. I have 13 colonies in my home apiary and 4 out of town. I sold 4 colonies recently for $12.00. Of the 17 I have only 4 new swarms as I am keeping the bees from swarming as much as possible. Some colonies are in the second supers and we have taken some honey off. We are hoping for a bountiful year for honey in Iowa.

(Rev.) J. W. STINE.

Durham, Iowa, June 25.

Light Honey-Flow.

In this section of country everything indicates not a very good yield of honey this season. Our spring was too wet, and our white clover grew too rank. I never saw long-stemmed white clover produce much honey, and the cold nights and dry weather we are having, make the honey-flow very light. I have just taken off my first super of comb honey, and our flow is generally over here from July 1st to the 15th. I don't think my apiary will average over one super to the colony.

J. G. CREIGHTON.

Harrison, Ohio, June 17.

Labrador Tea.

D. E. Dobbs, of Indus, Minn., sent us a specimen of a plant which grows in swamps in great profusion in his locality. He desired us to name the plant. We referred it to Prof. Walton, who replies as follows:

[The plant in question is called Labrador Tea, *Tedum latifolium*, and occurs only in the northern part of the United States from Massachusetts to Minnesota. The bush is easily recognized by the dense rusty wooliness of the lower side of the leaves. The Labrador Tea is well shown in colors in the last edition of Mrs. Dana's "How to Know the Wild Flowers," plate 25, published by Scribners.—C. L. WALTON.]

Butterfly Weed.

What is the name of this flower? My bees are at work on it constantly, all the time it is in bloom. It is blooming now. I noticed a little on my place last year, and there is quite a quantity of it scattered around now. However, it is not plentiful. Bees seem to be very fond of it. This red flower is of short blooming. It grows in a flat cluster.

Greenfield, Tenn., June 8. R. B. PERRY.

[The plant is the butterfly-weed, so called from its brilliantly colored blossoms; also called pleurisy-root, from the belief that the thick roots were a specific for the pleurisy. Its scientific name is *Asclepias tuberosa*, the first word being that of a Greek poet, and the second referring to the thick roots.

Prof. Cook in the "Bee-Keepers' Guide," page 423, Revised Edition, speaks very highly of the pleurisy-root as a bee-plant.—C. L. WALTON.]

Bee-Keeping for Boys—Carelessness.

I began bee-keeping 5 years ago, at the age of 12, and am still in the business. I started with 2 colonies which my father gave me when he quit keeping bees. The first summer they increased to 7, the 7th one being found on the ground under an old apple-tree in the pasture. The morning I found them, I set a box-hive over them, and after they had gone up into the hive a mule turned it over, and the result was a warm time for "Jack," but I succeeded in saving the swarm, which gave me 25 pounds of honey a few days ago.

From poor seasons had almost put me out of the business, but this spring when white clover began to bloom I was again encouraged, and am now having fine success, some colonies having 25 or more pounds of comb honey. This is a booming season in this locality.

What do you think of a man who has 30 colonies and allows them to swarm naturally, and let 24 or 25 swarms go to the timbers? Do you think he should be called careless? I think he should. I have a neighbor bee-keeper who did this very trick this good white clover season. He does not get as much honey from 30 colonies as I do from my 11.

Slater, Mo., June 28. R. C. HICKMAN.

Bee-Keeping in Backward Condition.

The clover season is nearly over, and not over 10 pounds of extracted honey taken per colony, on the average. Too much rain is the cause of no honey. Over Laclede county not over one-half the bees are alive that began the winter of 1907-08. They all died from starvation. Bee-keeping is in a very backward condition in this locality. Only a small percent of the bees are on movable frames. The majority are kept by careless farmer bee-keepers.

The season of 1907 was a good one for clover, but no late flow. Breeding ceased and hence the colonies began the winter with mostly old bees. These soon died off, leaving the colonies very weak in bees. After this, when we have no fall flow, I shall feed for stimulative purposes until I have the hives full of brood. These hives full of young bees, plenty of well-sealed honey, and a good, young queen, insure a crop of honey the following season, if the flowers really do secrete nectar.

Oakland, Mo., June 17. R. D. WILSON.

Backward Spring—Italian and Black Bees Mixing.

This been a very backward spring for bees in this locality. My bees wintered well, as I lost none, but I have had a hard time to keep them from starving since spring set in, as there have been but 3 or 4 days that they could work since fruit began blooming, so they got no good whatever of the fruit or dandelions. They are now—May 17—storing a little more honey than they are using.

I have 26 colonies. Some look to be full Italian. I bought them from different persons, and do not know that they are full Italian, only by their looks. I am a beginner and have had very little experience. I have "A B C of Bee Culture," and with the help of the American Bee Journal I hope to succeed.

The first of last July I bought a colony of black bees that were so bad to sting that the man said he could do nothing with them. He said he had never been able to get the surplus honey. I moved them home (about a mile), got $3.60 worth of honey, and never got a sting. I set the hive within 6 feet of an Italian colony, and now about one-sixth of the workers in the colony that were all black bees last July, are just like the Italian bees in the near-by colony. What is the cause? I did not notice it until late this spring, and concluded that the theory, that a queen once mated was always so, was probably incorrect, and that the black queen had mated with the Italian drones. I would not have been surprised to have seen black bees among the yellow ones, on account of their not being located and would probably get into the wrong hive. J. A. DETHEROW.

Springfield, Mo., May 18.

Early Swarming — Weather Conditions.

The honey-flow is in full blast. The white clover flow began early in May and is still on. The mustard flow is under headway now, but not much of it.

Swarming was a month early. It began in my yard May 8, and is still going on in full force, and will probably go on a week or two, as I allow the bees to swarm naturally.

During the latter part of May and the first of June the weather was so cool and damp that the bees could do nothing, but the weather has changed now. We are having hot, bright, sunny days. The whole force of field-bees are very busy today. R. C. HICKMAN.

Slater, Mo., June 20.

Poor Weather—Bees Doing Fairly Well.

We are now in the midst of a rainy season, and very poor weather for the bees. Yet bees have done fairly well. They are swarming some, stored some surplus honey from fruit-bloom, and have done fairly well on raspberry and blackberry. The alsike clover is now in bloom, and the bees could do well on it if the weather were favorable for them. About one-third of the bees that went into winter quarters came out dead, and still more that wintered on the summer stands. There was no surplus honey in this section last year, and many bees went into the winter short on stores. Our main honey crop is white and alsike clover, but sometimes we get a good flow from linden or basswood. If we miss this we don't count on much money. I have never seen any honey from buckwheat. I have seen some gathered from heartsease, and called buckwheat. I am now in my 44th year as a bee-keeper, and have had many ups and downs—more downs than ups. O. P. MILLER.

Menlo, Iowa, June 1.

Bees Find Home Before Swarming.

I have kept bees for several seasons, but never knew positively until this season that bees have their new home located before leaving the hive, when swarming.

Recently when looking over the hives in the morning, I discovered a few bees working around a hive I had in readiness for a swarm I was expecting to issue. At first I thought they were robbers, as the hive was filled with comb and contained some honey, but I did not think it worth while to remove the hive. On going around again about noon, however, I concluded I would, as the bees were greatly increased in number. About an hour later I was surprised to see a swarm hovering over the hives, and at once concluded they were looking for the hive. I therefore replaced the removed hive, when the bees commenced to settle immediately and enter the hive, where they have since remained. This is the second time this has occurred this season in nearly the same manner.

GEO. S. IVES, JR.

Granton, Wis., June 21.

Rain in Torrents—White Clover.

We are having it very, *very*, VERY wet. We have scarcely seen the sun for two weeks, and cyclones have done great damage on all sides of us, but no damage to us (our family) save a few trees blown down on broken. A number of buildings were wrecked in town. The rain has come down in torrents, and we have hoped for days to see the sun. However, this immediate community will suffer no great loss on account of the wet if it will stop now. The bees have revelled in a wealth of dandelion bloom, and many hives have one super filled and capped with dandelion honey; others are working in the second super.

Swarming was in full blast during the hot spell previous to the rainy period among the small bee-keepers that let the bees swarm at their "own sweet will." I haven't had a swarm yet, but expect to be busy when the sun comes out. There is only a straggling bloom of white clover that has shown up yet, but by this time next week there will be a perfect sea of it, and we hope to see the sun rise, the mercury rise, and of course, in order to see the sun rise, we will have to rise before sunrise. F. W. HALL.

Hull, Iowa, June 3.

The American Institute of Phrenology

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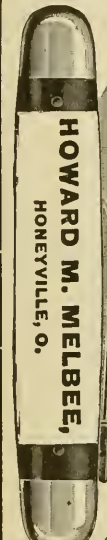

Your name and address put on one side of the handle as shown in cut, and on the other side pictures of a queen-bee, a worker, and a drone. The handle is celluloid and transparent, through which is seen your name. If you lose this knife it can be returned to you, or serves to identify you if you happen to be injured fatally, or are unconscious. Cut is exact size. Be sure to write exact name and address. Knife delivered in two weeks. Price of knife alone, postpaid, $1.25. With year's subscription, $1.50. **Free** for 5 new 50c subscriptions.

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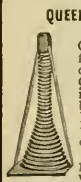

The Monette Queen-Clipping Device is a fine thing for use in catching and clipping Queens' wings. 4½ inches high. It is used by many bee-keepers. Full printed directions sent with each one.

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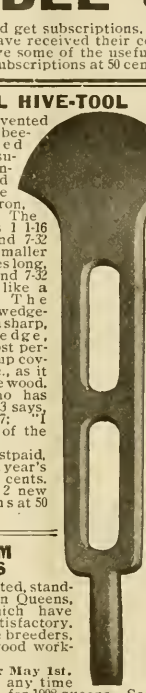

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Exactly half actual size.

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These are untested, standard-bred, Italian Queens, reports of which have been highly satisfactory. They are active breeders, and produce good workers.

Sent only after May 1st. Orders booked any time for 1908 queens. Safe delivery guaranteed. Price, 75 cents each, 6 for $4.00, or 12 for $7.50. One queen with a year's subscription, $1.00. **Free** for 3 new 50c. subscriptions.

HUMOROUS BEE POST-CARDS

I CANNOT BEAR TO LOSE YOU
O WON'T YOU BEE MY HONEY,
AND CHEER THIS LONELY HEART?
FOR I WOULD HUG YOU ALL THE TIME,
AND WE WOULD NEVER PART

A "Teddy Bear" on good terms with everybody including the bees swarming out of the old-fashioned "skep." Size 3½ x 5½, printed in four colors. Blank space 1½ x 3 inches is for writing. Prices—3, postpaid, 10 cents; 10 for 25 cents. Ten with a year's subscription, 60 cents. 6 **given free** for one 50-cent subscription.

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Amerikanische Bienenzucht, by Hans Buschbauer, is a bee-keeper's handbook of 138 pages, which is just what German friends will want. It is fully illustrated, and neatly bound in cloth. Price alone, $1.00. With a year's subscription, $1.25. **Given free** for 4 new subscriptions at 50 cents each.

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Holds 3 volumes. Has wood back but no covers. Price postpaid, 20 cents. With a year's subscription 60 cents. **Given free** for 1 new subscription at 50 cents.

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A few of these handsome "bronze-metal" clocks left. Base 10½ inches wide, by 9½ inches high. Design is a straw skep with clock face in middle. Suitable for parlor—an ornament for any place. Keeps excellent time, durable and reliable. Weight, boxed, 4 pounds. You pay express charges. Price, $1.50. With a year's subscription, $1.75. **Given free** for 6 new subscriptions at 50 cents each.

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American Bee Journal

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My brother and myself have five apiaries in the wild red raspberry region of Northern Michigan, where we are hoop-iron to protect them in shipment), and offering it at ten cents a pound—$12.00 for a case of two cans. To some this may seem a trifle high in price, but it must be remembered that it costs more to produce such honey as this, and it is worth more; besides, to a certain extent it is a novelty, it is RASPBERRY honey, a honey with a flavor all its own, a flavor that smacks of the wild, red raspberry of the woods. It is the honey that won the gold medal at the Jamestown Exposition against all other honeys from all over the United States. The dealer who builds up a trade with this honey can hold it against all odds.

If not acquainted with this honey, send me ten cents and I'll mail you a generous sample and the ten cents may apply on the first order that you send.

W. Z. HUTCHINSON, Flint, Mich.

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Soon they will want room or will swarm. Have you got your Hives and Supplies? If not, send your order at once. If you have A. I. Root Co.'s Catalog you can order from it. We sell their goods at their factory prices. We can fill your orders promptly now. Write for further information and our 40-page catalog. 5A2t

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Everyone who grows fruit should be interested in getting **more profit** from his **fruit** crops.

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is handsomely illustrated, 76-p. monthly. Treats of fruit-growing, gardening, poultry-raising, on a large or small scale. Every farmer needs it. $1 a year, but will be sent three months **free** on trial if you will notify us to stop, or subscribe after trial.

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Headquarters National Bee-Keepers' Ass'n, Oct. 13, 14, 15, 1908.

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H. A. ROSS, 1709 Upper Second St., Evansville, Ind.
Mention Bee Journal when writing.

CARNIOLAN QUEENS and ITALIANS
Untested, 75c. Tested, $1.00
5A4t **GEO. E. KRAMER, Valencia, Pa.**

ITALIAN QUEENS

Large, prolific Queens of the Moore strain. Nice to handle, and extra good workers. 60c. each; $6 per doz. ($3.25 for 6.) Begin shipping about June 25th. A few Selected Breeders at $3.50 each, ready now. 6A4t

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Cash or supplies for beeswax at all times

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Choice Queens Only

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"Easy to Use" and after you have had a little practice you will be able to make money by caponizing your neighbors' stock at so much per rooster.

Very full directions accompany these goods and the length of time they have been on the market and the demand for them in all parts of the country is pretty good evidence that they are both easy and profitable to use. Write now, and please mention the American Bee Journal.

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of the different grades and kinds. If you have any to dispose of, or if you intend to buy, correspond with us.

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Superior Italian Queens

By return mail after June 1st, or money refunded. Bred from the best red clover working strains in the United States. There are no better hustlers. They are gentle and winter well. Untested queen, $1.00; six for $5.00; twelve, $9.00. After July 1, one queen 75 cts.; six for $4.00; twelve for $7.50. Special prices on 100-lots; and discounts on time orders. Safe arrival and satisfaction guaranteed. Write for descriptive circular. 6Alt

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I have the following supers in splendid condition, all well painted and with section-holders in them.

150 8-frame Plain 90 10-frame Plain
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All Bingham Smokers are stamped on the tin, "Patented 1878, 1892, and 1903," and have all the new improvements.

Smoke Engine—largest smoker made	$1.50—4	inch stove
Doctor—cheapest made to use	1.10—3½	"
Conqueror—right for most apiaries	1.00—3	"
Large—lasts longer than any other	.90—2½	"
Little Wonder—as its name implies	.65—2	"

The above prices deliver Smoker at your post-office free. We send circular if requested.

Original Bingham & Hetherington Uncapping-Knife.

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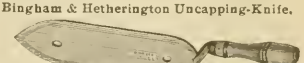

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bred for honey—guaranteed hustlers. Untested, 60c each in any quantity. No quantity discounts. 5A3t

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THE AMERICAN BEE-KEEPER, a monthly at 50c a year. Published 17 years.

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for 15 years. It has increased each year. We want YOUR order this year and will quote you attractive prices. Our prices are f. o. b. cars here. We furnish bees in any quantities. Have seven hundred colonies in our own yards. Catalog free. Colony of Ital. bees in new hive, $9. Ital. queen, $1.

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At Root's Factory Prices

LARGE DISCOUNTS OFFERED ON EARLY ORDERS. Have a large stock on hand, and can supply promptly. Freight Rates from CINCINNATI are the LOWEST, ESPECIALLY FOR THE SOUTH

As almost all freight now goes through Cincinnati. You will save money buying from me. Catalog mailed free. Send for same.

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IF YOU HAVE ANY TO SELL

mail sample and state lowest price expected delivered Cincinnati. If you want to buy, state quality and quantity and I will cheerfully quote you price.

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Will pay, at all times, highest market price on receipt of goods.

C. H. W. WEBER

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Office and Salesrooms, 2146-48 Central Ave. Warehouses, Freeman and Central Aves.

Honey and Beeswax

CHICAGO, June 22.—At present there is no market so far as comb honey is concerned, so that quotations cannot be given from actual transactions. It will be toward the end of July before there will be a call for it, and this may also be said of extracted honey so far as family trade is concerned. The manufacturing interests are using a great deal of extracted honey, especially is this true of the bakers, but they are able to get what they want at low prices. Beeswax is in good demand at 30c.

R. A. BURNETT & CO.

TOLEDO, June 22.—There is little or no demand for comb honey at this season of the year, and people are waiting for the new crop, and as the season promises to be a good one we look for much lower prices. Beeswax firm at 26 to 28c. Extracted white clover honey is bringing, in barrels, 6½ to 7c. Amber would bring 5 to 5½c.

THE GRIGGS BROS. & NICHOLS CO.

ZANESVILLE, OHIO, June 23.—This market is now practically bare of last season's honey. While there are no large consignments of new honey arriving, there is considerable coming in in small lots from the surrounding country, and the market is quite unsettled. In general, the conditions are unsatisfactory, there being scarcely any demand for either comb or extracted, though some revival is anticipated. The jobbing trade are offering 15 to 15½c on arrival for fancy to No. 1 comb, which brings wholesale about 17½ to 18c. Beeswax 29c on arrival.

EDMUND W. PEIRCE.

PHILADELPHIA, June 22.—The prospects at present are for one of the largest crops of honey we have seen in the East for the past 10 years. The result is, prices are uneasy and have a strong, downward tendency. A few little lots of comb honey are being offered, but not enough to establish a price. We are looking for very low prices the coming season. Beeswax is firm at 28c.

WM. A. SELSER.

INDIANAPOLIS, June 22.—Prices on new honey not established, and those interested are wondering as to the prospects. Almost no new honey yet on the market, but arrivals will be in order within the next two weeks. An unusual large crop of white clover honey is being harvested in the Central States; the demand will be excellent, but no stable prices can be named at this writing. Beeswax brings 28c cash.

WALTER S. POUDER.

KANSAS CITY, MO.,—There has been very little new honey on our market this spring, but what is coming in is selling quickly at $3.50 to $3.75 per 24-section case; extracted, 7½c. We look for a good demand, and if there are no more rains, the honey crop will be good in this section.

C. C. CLEMONS & COMPANY.

CINCINNATI, June 22. — The market on comb honey is very slow, some new goods having arrived, but there is no demand—it is selling slowly at 14c. There is some new white clover extracted honey coming in, selling at 7½c; amber in barrels at 6 and 6¼c. Beeswax, $33 per 100 lbs.

C. H. W. WEBER.

DENVER, June 23.—We are entirely closed of comb honey and ready to receive consignments of new crop comb, the first arrivals of which should quickly move at good prices if fancy stock. Extracted honey is in fair demand. We quote white extracted at 8 to 9c, light amber and strained at 6¾ to 7½c. We pay 25c per pound for clean, yellow beeswax delivered here.

THE COLO. HONEY PRODUCERS' ASS'N.

NEW YORK, June 22.—There is some demand for fancy comb honey and No. 1 white at around 14c. We are now receiving shipments of the new crop comb honey from the South, and No. 1 and fancy white grades will find sale at the above price. Lower grades, however, dark and amber, are not in demand, and being stocked ourselves cannot encourage shipments on these grades for the time being, as we would probably have to carry the honey until next fall, and would not be in position to render account of sales within reasonable time. The old crop of extracted honey is fairly well cleaned up, and while the demand has been quite dull ever since January, we now note quite an improvement which we think will continue during the summer months. Receipts of the new crop from the South are quite heavy, as well as from the West Indies. While the reports from California are not very encouraging, indications point to a good crop in almost every other section in the United States, and it is our opinion that prices will not advance, and we would advise producers not to hold on to their honey, but to let it come along now while there is a fair demand and take market value. We quote: New crop Southern, average quality, 58 to 62c per gallon; better grades, 65 to 75c. California white sage, 8¼ to 9c per lb.; light amber, 7½ to 8c. Beeswax steady and in good demand at 30c for choice quality.

HILDRETH & SEGELKEN.

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We have moved our business from **Redford** to **Lansing,** and are now equipped to supply you with **"Root Quality" Goods** to the very best advantage to you. We have a **Complete Stock,** and ours is the **best shipping point in the State.** Address your letters, and ship **Beeswax** to us here.

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Now Ready

The 97th edition of our catalog is now ready. If you have not received a copy and are ready to place an order for any supplies write for a copy. Our mailing list has over 400,000 names, time is required to get the entire edition mailed. We e[illegible] this so any one may understand why a catalog may not reach him early.

The A B C of Bee Culture

When we announced the completion of the new edition late in 1907 there was a good deal of satisfaction to notice the big bunch of orders on hand, although we did regret the unavoidable delay in getting the books to some customers who had waited patiently for months. Over two thousand copies of this edition have already been sent out. We believe all urgent orders have been filled. We felt that the change of price to $1.50 postpaid might cause a little slackening in the demand. Not so, however, for in all our experience the orders never came faster.

We have also of the English edition a half leather at $2.00 and full leather at $2.50, postpaid.

GERMAN EDITION, A B C der Bienenzucht in paper covers, $2.00. Cloth-bound at $2.50, postpaid, to any country.

FRENCH EDITION, A B C de L'Apiculture, cloth-bound, at $2.00, postpaid, to any country.

Gleanings in Bee Culture

If you haven't seen a late copy of Gleanings you can't tell from any brief description how really magnificent it is. There are many valuable departments, and our subscribers just at this season of the year are telling how much they appreciate the paper.

Each issue is very fully illustrated. The covers are done by the finest engravers in Chicago, and our writers are the best in the land. Besides dozens of writers of prominence whose names we can't even mention for lack of space, we have such men as Dr. E. F. Phillips, U. S. Dept. of Agriculture; Dr. Edward F. Bigelow, Associate Editor St. Nicholas; F. Dundas Todd, former Editor Photo-Beacon; Allen Latham, Connecticut, etc.

A trial of six months (12 numbers) costs 25c. If in addition to your own subscription you secure others for six months keep 10c on each one for your trouble. A liberal cash commission to those who do canvassing for us.

Gasoline Engines and Power

Honey Extractors

For large apiaries, or where the honey comes with a rush and labor is scarce, you should investigate our power machines. A circular of these will be sent on request.

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BARNES' Foot-Power Machinery

Read what J. I. PARENT, of Charlton, N. Y., says: "We cut with one of your Combined Machines, last winter. 50 chaff hives with 7-in. cap, 100 honey-racks, 500 brood-frames, 2,000 honey-boxes, and a great deal of other work. This winter we have double the amount of bee-hives, etc., to make, and we expect to do it with this Saw. It will do all you say it will." Catalog and price-list free.

Address, W. F. & JOHN BARNES, 995 Ruby St., Rockford, Ill.

Stanley Queen Incubator and Brooder

An arrangement that allows the bees access to the cells and Queens at all times. Patented July 7, 1903. Price, each, $5.00.

Stanley Twin Nucleus Box

An arrangement that has control of the Queen by a 3-hole wheel, with one entrance screened, one hole with queen-excluding zinc, and one hole to regulate entrance. (Patent applied for.) Price, each, $1.00. **Cylinder Cages,** postpaid, each, 10c. **Queen-Cells, 100 mounted,** with sample of Cylinder Cage (sent postpaid,) for 75 cents.

Bees and Queens

Nuclei—One 3 L. frame, $2.50; price of Queen to be added.

Queens—Tested Italian, each, $1.25, or $10 a dozen. Breeding Queens, $2 to $3 each

I have a few Imported Italian Queens at the same price.

Untested Queens after May 15th—Italian (warranted) 75 cents each; dozen, $7.00

Carniolan, Caucasian and other strains, untested, 75c each, or $7.00 a dozen.

ARTHUR STANLEY, Dixon, Lee Co., Ill.

Miller's Italian Queens and Bees

My queens are reared from selected mothers, and by the best and most approved methods

Untested queens, from June to October, single queen, 60 cts.; three for $1.60; six for $3.00; twelve for $5.75.

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Untested	$1.00	$5.00	$9.00
Select untested	1.25	6.50	12.00
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Untested, 75c each; $8.40 per doz. Tested, or Warranted purely mated, $1.00 each; $10.80 per doz. 4 or more queens ordered at one time filled at dozen rates. No disease. Quality, promptness and absolute satisfaction guaranteed. Also nuclei and full colonies. Send for price-list. 7Atf

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The shortage of the honey crop for 1907 in the United States warrants bee-keepers to increase their colonies. About a half crop was produced, and in California, where the cheap honey comes from, only a quarter of the average crop was produced.

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48th Year
No. 8

August, 1908

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A Simple Hive-Lifting Device

No. 1.—Hive-Lifter of A. C. Brovald

No. 2.—Letting Lifter Down Over 3-Story Hive

(See page 233)

No. 3.—Lifter With 2 Supers Taken Off Brood Chamber

No. 4.—Moving 3-Story Hive With The Lifter

American Bee Journal

THE AMERICAN BEE JOURNAL

PUBLISHED MONTHLY BY
GEORGE W. YORK & COMPANY
118 W. Jackson Blvd., Chicago, Ill.

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2d.—To protect and defend its members in their lawful rights.
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Standard Hives with latest improvements, Danzenbaker Hives, Honey-Boxes, Comb Foundation and everything that is used in the bee-yard. Large illustrated catalog mailed free. Finest White Clover Extracted Honey for sale in any quantity desired.

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Is the Best. Not because we say so, but because the Bees prefer it to other makes.

Dittmer's Process is Dittmer's

It has built its Reputation and established its Merits, on its own Foundation and its own Name.

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Write for free catalog and prices on full Line of Supplies.

GUS DITTMER CO., Augusta, Wis.

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Pure Italian Bees in up-to-date hives for sale. Quote prices on Honey and Beeswax. Send for complete catalog.

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Successors to YORK HONEY & BEE-SUPPLY CO., 191-193 E. Superior St., Chicago, Ill.
Long Distance Telephone, North 1559

A FULL LINE of Bee-Keepers' Supplies. My patent section Machine at half-price. A new queen-nursery, and queen-rearing outfit. Queens from imported Italians, Caucasians, Carniolans; and Adel queens. Send for Catalog and price-list. CHAS. MONDENG, 160 Newton Ave. N., Minneapolis, Minn. 3A6t

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FOR SALE—It will pay to get our special proposition. A. G. WOODMAN CO., Grand Rapids, Mich.

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W. J. McCARTY, Emmetsburg, Iowa.

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Improved superior Italians, and nothing but Italians, is what QUIRIN furnishes, northern bred and hardy. All our yards are wintered on summer stands, and not a single colony lost the past winter—over 20 years a breeder.

Send for Circular and Testimonials.

Prices after July 1	1	6	12
Select queens	$ 75	$4 00	$7 00
Tested queens	1 00	5 00	9 00
Select tested queens	1 50	8 00	15 00
Breeders	3 00	15 00	

Queens now promptly by return mail. Safe delivery of queens guaranteed. Nice, fancy white clover comb honey now ready at $3.50 per case in not less than six case lots, 24 sections to case.

Quirin-the-Queen-Breeder, Bellevue, O.

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Italian and Caucasian BEES, QUEENS and NUCLEI

Choice home-bred and Imported stock. All queens reared in full colonies.

Prices for July and After

One Untested Queen	$ .75
One Tested Queen	.90
One Select Tested Queen	1.10
One Breeder Queen	1.65
One Unt'd Nucleus (no queen)	.80
One Unt'd Caucasian Queen	1.25
One Tested Caucasian Queen	1.50

Safe arrival guaranteed. For prices on larger quantities and description of each grade of queens, send for price list.

All queens by return mail. A few hundred pounds of Comb Foundation. Send for sample and price.

J. L. Strong, 200 East Logan St. 4tf Clarinda, Iowa

Not Cheap Queens, But Queens Cheap.

Bred from the very best selected strain. Guaranteed to work any flower.

Italian Bees Work or Money Refunded

Untested Italian queens in lots as follows: One, 75 cents; Six, $4.20; Twelve, $7.80.
Tested Italian queens in lots as follows: One, $1.00; Six, $5.70; Twelve, $10.80.
Nuclei with untested Italian queen: One fr., $1.75; Two fr., $2.25; Full Col. $4 75.
Nuclei with tested Italian queen: One fr., $2.00; Two fr., $2.50; Full Col. $5.00.

The above queens are all reared from the very best selected red clover Italian queens. Orders filled by return mail. Dealer in Bee-Keepers' Supplies.

4A1t **W. J. Littlefield,** R. F. D. No. 3 Little Rock, Ark.

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By Return Mail

1 Queen 75c; 6 for $4.00; 12 for $7.00.
Circular Free.

D. J. Blocher, Pearl City, Illinois.

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AUG. LOTZ & SON, Cadott, Wis.

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Now Is the Time to Requeen Colonies

Untested Italian Queens by Return Mail

$4.00 for 6 queens; $2.10 for 3; or 75c for

A Standard-Bred Italian Queen-Bee

For a number of years we have been sending out to bee-keepers exceptionally fine Untested Italian Queens, purely mated, and all right in every respect. Here is what a few of those who received our Queens have to say about them:

What They Say of Our Queens

GEORGE W. YORK & CO.:—The two queens received of you some time ago are fine. They are good breeders, and the workers are showing up fine. I introduced them among black bees, and the bees are nearly yellow now, and are doing good work. A. W. SWAN.
Nemaha, Co., Kan., July 15, 1905.

✣✣✣

GEORGE W. YORK & CO.:—After importing queens for 15 years you have sent me the best. She keeps 9X Langstroth frames fully occupied to date, and, although I kept the hive well contracted, to force them to swarm, they have never built a queen-cell, and will put up 100 pounds of honey if the flow lasts this week. CHAS. MITCHELL.
Ontario, Canada, July 22, 1905.

✣✣✣

GEORGE W. YORK & CO.:—The queen I bought of you has proven a good one, and has given me some of my best colonies. N. P. OGLESBY.
Washington Co., Va., July 22, 1905.

✣✣✣

GEORGE W. YORK & CO.:—The queen I received of you a few days ago came through O.K., and I want to say that she is a beauty. I immediately introduced her into a colony which had been queenless for 20 days. She was accepted by them, and has gone to work nicely. I am highly pleased with her and your promptness in filling my order. My father, who is an old bee-keeper, pronounced her very fine. You will hear from me again when I am in need of something in the bee-line. E. E. MCCOLM.
Marion Co., Ill., July 13.

We usually begin mailing Queens in May, and continue thereafter, on the plan of "first come first served." The price of one of our Untested Queens alone is 75 cents, or with the monthly American Bee Journal one year—both for $1. Three Queens (without Journal) would be $2.10, or 6 for $4.00. Full instructions for introducing are sent with each Queen, being printed on the underside of the address-card on the mailing-cage. You cannot do better than to get one or more of our fine Standard-Bred Queens.

Address, GEORGE W. YORK & CO., 118 W. Jackson, Chicago, Ill,

SHIPPING-CASES

Thousands of them. A 24-lb. case for 4½ sections, 1-piece cover and bottom, corrugated paper-cushion bottom, 2-in. glass—12c each. Write your wants. **All kinds of supplies.**

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40-page catalog free. Bristol of the latest make of hives, etc. Our supplies will please you in every way. Prices are right. We can make prompt shipments as we carry a full line of A. I. Root Co.'s supplies in stock. Don't fail to write us if you are in need of supplies. 8A1f

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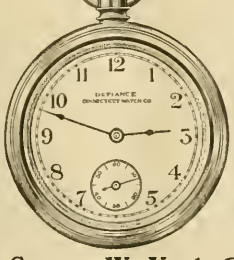

This watch is stem wind and pendant set. It is made to meet the popular demand for an accurate timekeeper at a low cost.

It is open face, heavy beveled crystal. Bezel snaps on. Lantern pinions. American lever escapement, polished spring encased in barrel. Short wind and long run—30 to 36 hours in one winding. The manufacturers give the following warranty:

1. To be in perfect running condition when it leaves the factory.
2. To be correct in material and workmanship.
3. Repairs will be made, not necessitated by careless use or abuse, during one year from date watch is bought, if it is returned to them with 5 cents enclosed for return postage.

An Easy Way to Get This Watch Free

Send us 5 new subscribers to the American Bee Journal at 50 cents each, and we will mail you this Watch free as a premium. Or, we will mail it with the American Bee Journal one year—both for only $1.40. Or, send us $1.10 and we will mail you the Watch alone.

Every boy and girl can now own a good watch. It would be a very nice and useful gift for a friend or relative. Address

George W. York & Co., 118 W. Jackson Boulevard, Chicago, Illinois

Queens of Moore's Strain of Italians

Produce workers that fill the supers, and are not inclined to swarm. They have won a world-wide reputation for honey-gathering, hardiness, gentleness, etc.

Mr. W. Z. Hutchinson, editor of the *Beekeepers Review*, Flint, Mich., says, "As workers, I have never seen them equaled. They seem possessed of a steady, quiet determination that enables them to lay up surplus ahead of others. Easier bees to handle I have never seen."

My queens are all bred from my best long-tongued three-banded red-clover stock (no other race bred in my apiaries), and the cells are built in strong colonies well supplied with young bees.

PRICES: Untested queens, $1.00 each; six, $5.00; doz., $9.00. Select untested, $1.25; six, $6.00; doz., $11. Select tested, $2.00. Extra select tested, $3.00. Breeders, $5.00 to $10.00.

Safe arrival and satisfaction guaranteed. Descriptive circular free. Address,

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J. P. MOORE,

Queen-breeder, Rt. 1, Morgan, Ky.

I am now filling orders by return mail.

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QUEENS THAT WILL IMPROVE YOUR STOCK

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These Queens are carefully reared from combined Doolittle and Alley stock, and are very high class in every way. Untested, 75c; 3 for $2.00.

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Italian Queens

Am now up with all orders, and a fine lot of Queens to mail. Untested, 60c; 6 for $3.25; $6 per doz. Large, prolific Queens from Moore's strain. Good workers and gentle.

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Capital City Apiary

Golden Italian Queens, 75c each.

Satisfaction guaranteed. 6A3t

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Moore's Strain, and Golden Italian Queens

Select Untested Queens, $1; 6 for $4; 12 for $7. Carniolan, Banat, Caucasian Queens: Select, $1.00; 6 for $5. Tested, any race, $1.25; 6 for $6. Choice Breeders, $3.00. Circular free.

3aft **W. H. KAILS, Orange, Calif.**

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That covers the whole Apicultural Field more completely than any other published, send $1.20 to

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—FOR HIS—

"BEE-KEEPER'S GUIDE"

Liberal Discounts to the Trade.

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"Forty Years Among the Bees"

By Dr. C. C. Miller

One of the Best-Known Honey-Producers in all the World

THIS book of over 340 pages tells just how Dr. Miller manages his apiaries to produce the most honey, which, in turn, brings the most money. Dr. Miller has been "at it" some 45 years, and so is competent to tell others the best way to be successful with bees. In 1903 his crop of comb honey was over 18,000 pounds, and he is not located in the best honey-producing part of the United States, either—Northwestern Illinois.

The book is bound in substantial cloth, gold-lettered, and is sent postpaid for only $1.00; or with the American Bee Journal one year for $1.25. (Or send us 4 new subscriptions to the Bee Journal—with $2.00—and we will mail you the book **free** as a premium.) Every bee-keeper ought to have both the book and the Bee Journal, if not already possessors of them.

As Dr. Miller gets a royalty on his book—so many cents on each copy sold—every bee-keeper who buys it is thus helping a little to repay him for his effort to lead others to success through his writings on bee-culture.

As we have a good stock of these books on hand, we **can fill all orders by return mail.** This is the time of year to read up on bee-keeping. Better send us your order at once for Dr. Miller's book, and study it carefully so as to make the most of the bee-season. Address,

GEORGE W. YORK & CO., 118 W. JACKSON BLVD. CHICAGO, ILL.

Tennessee-Bred Queens

All from extra-select mothers, Davis' Best, and the best money can buy

3-band and Golden Italians bred 3¼ miles apart, Carniolans 5, Caucasians 7 miles away

THREE-BAND AND GOLDEN ITALIANS

	November 1st to July 1st			July 1st to Nov. 1st		
	1	6	12	1	6	12
Untested	$1.00	$5.00	$ 9.00	$ .75	$ 4.00	$ 7.50
Select Untested	1.25	6.50	12.00	1.00	5.00	9.00
Tested	1.75	9.00	17.00	1.50	8.00	15.00
Select Tested	2.50	13.50	25.00	2.00	10.00	18.00

BREEDERS	
Straight 5-band	$10.00
Select Golden	4.00
Select 3-band	4.00
Select Caucasian	5.00

Untested Caucasian, $1.25 each; 6 for $7.00; 12 for $12.00.

Nuclei, without queens: 1-frame, $2.50; 2-frame $3.50; 3-frame $4.50. 1 Full Colony, 8-frame $9.00.

Select the queen wanted and add to the above prices.

NOTE

I have transferred to my son, Benj. G. Davis, my straight 5-band and Golden department, and in order to receive the promptest attention, all correspondence for these should be sent direct to him. He practically grew up in my queen yards, rears queens by my methods, has had charge of this department for years, and understands his business. No bee-disease.

JOHN M. DAVIS, Spring Hill, TENNESSEE, U. S. A.

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AMERICAN BEE JOURNAL

(Entered as second-class matter July 30, 1907, at the Post-Office at Chicago, Ill., under Act of March 3, 1879.)

Published Monthly at 50 cents a Year, by George W. York & Co., 118 West Jackson Boulevard.

GEORGE W. YORK, Editor | CHICAGO, ILL., AUGUST, 1908 | Vol. XLVIII—No. 8

Editorial Notes and Comments

National Convention at Detroit

It is only about 2 months until the next annual meeting of the National Bee-Keepers' Association at Detroit, October 13, 14, and 15.

Are you planning to be present?

Why not get together a special car of bee-keepers from Texas and other parts of the South?

And another car from the far West?

Yes, and still another might start in the East—say near New York City or Philadelphia!

Of course, Canada will be represented by more than a car-load of her best bee-keepers.

It promises to be a great gathering of the clans of beedom.

Remember, Detroit is the place.

And the time is Oct. 13, 14, and 15—only two months away.

Cartons for Comb Honey

The best grades of comb honey should be put on the market in neatly printed cartons. They are a great convenience for the dealer; they serve to keep the honey free from dust, and also prevent marring the delicate comb when handling from the grocery to the consumer's kitchen.

Cartons are so inexpensive, and so useful, that it is surprising that more of the best comb honey is not put on the market in them.

Of course, those using cartons should be very careful to see that only the most perfect sections of honey are put into them. A honey-purchaser will seldom buy cartoned honey the second time if she has been once deceived—by getting, for instance, a partly filled comb in a carton; or, perhaps, a dirty-looking comb.

Cartons should be used more extensively than they are now, as they also furnish an added opportunity to send out printed honey-information with each comb of honey sold.

Ventilating Section-Supers

It is well known that it is much harder to keep down swarming when working for comb than when working for extracted honey. Perhaps the chief reason is that when bees have plenty of extracting-combs to fill they are not so crowded as when obliged to build comb in sections. Another difference, at least with some, is that when working for extracted honey, space is given for ventilation between each 2 stories, while a colony working on sections has no ventilation given except at the entrance.

It may not be generally known, however, that to a small extent ventilation has been given with section-supers, the super being shoved forward enough to make a space of about ¼ inch for ventilation at the back end. Sometimes the result of this is that the back row of sections is not so far advanced as the others, and sometimes it seems to make no difference.

Failure of Non-Swarming Plan

On page 70 was given a plan for the prevention of swarming, with the remark that if it proved successful in general it would be a step in advance. Dr. Miller, the originator of the plan, now reports that he has had cases of failure this year, the bees swarming within a very short time after being treated. He still thinks, however, that the plan has the advantages over the shaking plan that were given on page 70, and that there is less danger of bees swarming out than there is after shaking. It is quite probable, too, that the season has something to do with it—probably much to do with it. He reports the heaviest flow from white clover in his whole long experience, and with it a general inclination to swarm such as he has never known before.

It is generally understood that a colony will not swarm with a queen of the current year's rearing, especially if the queen be reared by themselves. Previous to this year, Dr. Miller says he never had such a case, but this year he has had more than one case in which a colony has reared a young queen, and then after the young queen had well stocked the hive with brood the colony has swarmed. Even 2-frame nuclei have swarmed, although having some excuse in the fact that the bees had plumped in so much honey that the queen had no room to lay.

As before intimated, only trial will show whether the plan is of real value, and no doubt locality and seasons will have an important bearing.

Influence of Abundant Stores

Considerable has been said of late as to the stimulating effect upon the bees of an abundance of stores in the hive, Mr. J. E. Hand, in Gleanings, having commented rather severely upon the unreasonableness of anything of the kind. The following upon the subject is from the American Bee-keeper:

"In connection with the article by Mr. Latham in our January issue, page 4, and Mr. Hand's criticism, page 90, April number, the following, by Dr. Miller in Gleanings for June 1, is of interest:

'Something I never noted before, I learned this year, May 1. On that date we went to the Wilson apiary and watched the bees at the entrance of each hive. If they flew strong, carrying plenty of pollen, we judged them queen-right. Several did not fly well, and we opened their hives. They were strong in brood and bees, but had very little honey. They showed no signs of starvation, having enough honey for immediate use. One would have supposed they were the very ones that should have been out and hustling, but the scarcity of stores

American Bee Journal

seemed to have a depressing effect. Is it possible that abundance of stores in sight encourages them to greater activity in flight, just as it is believed to encourage them to greater activity in brood-rearing? At any rate I prefer my bees should have a goodly surplus of stores on hand at all times.'

"Editor Root thinks Dr Miller's assumption is borne out by previous reports.

"Mr. Hand contends that the influence would be the same on the bees, as that of bins full of wheat on a flock of hens. It should be noted, however, that it would probably make some difference in results as to whether the bees or the hens had access to the surplus food supply. Food locked up in the granary would hardly influence the egg-laying of the flock, nor would tons of honey stacked away in the loft of the house have any stimulating effect upon the bees in the hive. One thing is certain: If there is not a store of honey present in the hive, the colony can make no preparation to build upon it. It may, actually, be the consumption of the stores that brings about the improved condition and activity, but the "consumption" could not occur if the stores were not present.

"The writer has believed for years that the presence of a goodly supply of food in the hive had the effect of stimulating activity in every way—brood-rearing and honey-gathering—nor has he yet been persuaded to abandon a conviction that seems to have impressed itself upon his mind as a result of a life spent among bees."

It certainly looks like conceding rather large reasoning powers to the bees to imagine them as holding a consultation, and saying:

"There has been in the hive only enough honey to fill part of a frame, and we've been limiting the amount of brood reared in accordance therewith, but now that our master has put in 2 solid frames of sealed honey we need have no hesitation about starting all the brood we can keep warm, for there is no danger of the supply running out till plenty of stores can be had from the field."

If they are such good reasoners, why is it that it happens so frequently that brood is starved because stores have run out? But facts are stubborn things, and when so many experienced bee-keepers agree in the belief that bees according to their observations do make better work at building up when abundance of stores are on hand than when there is merely enough for the day's supply, it is likely there is ground for the belief, whether we can see any reason for it or not. At any rate, it is well to be on the safe side. It would not be well to put before a horse or a cow, all at one time, sufficient rations for the entire year. Much of it would no doubt be wasted, and starvation would follow before the year's end. But our bee is a wiser creature, and can be safely trusted to take good care of all she does not actually need.

Ventilation to Repress Swarming

An inquirer was advised in Gleanings to tier up extracting-combs as an aid toward keeping down swarming, and a Stray Straw added the suggestion:

"Shove the second story either backward or forward so as to make a ¼-inch crack for ventilation. Do this with each added story. This will double the security against swarming."

The editor thinks it probable that swarming will be hindered by so much ventilation, but expresses the fear that a large force of fielders will be forced to stay at home to keep up the temperature. To this J. E. Crane adds the following, in Gleanings:

"Doubtless the weather would make some difference; but it seems to me that, during July and August, quite as many fielders would be required to ventilate a hive two or three stories with only one entrance at the bottom as to keep up the temperature with more openings for ventilation."

If Mr. Crane be correct, that the extra force to keep up ventilation will balance the extra force required to keep up heat in the other case, then the proposed ventilation between each 2 stories, when running for extracted honey, ought to be a very important item.

Labeling Extracted Honey

The following appears in Gleanings in Bee Culture, relative to the labeling of extracted honey:

"Bee-keepers can not be too careful or painstaking in putting up their honey for market in a neat and attractive way. When you look over the shelves of the modern up-to-date grocery and note the neatness and taste displayed in many of the tempting packages, you will see the reason for care and forethought in putting your honey in tasty and attractive form before placing it on the market."

This is well said. And the A. I. Root Co., of Medina, Ohio, are prepared to furnish a fine assortment of honey-labels. They have a very complete label catalog which they mail on request.

If honey-producers ever expect to do a profitable business in honey, they must put up their product in the most attractive style possible—in a way that will attract the eye first; and then the honey offered must be of such excellent quality that it will satisfy the palate of the consumer. It is the repeated sales that count when it comes to the articles of food. Only an occasional sale of honey is not what bee-keepers are after as a finality. They want people not only to eat honey, but to *keep on eating it regularly—every day.*

Age of Brood-Combs

The Australasian Bee-Keeper contains a number of articles answering the question whether brood-combs become too old for use, and if so, how long it is advisable to keep them. There seems to be a general agreement that, however, it may be in America, in Australia combs used too long result in smaller bees, and also that old combs form a favorable soil for the production of injurious germs. One writer says brood-combs should not be used in that country more than 4 or 5 years. Another says 6 years at the longest. Another says 10 years at the longest, although 6 or 7 would be better. W. Reid, Sen., seems to stand alone, having combs that have been in use 15 years and as good as new, and he thinks they ought to be good for 50 years.

H. F. McHugh, in giving his objection to old combs, says:

"The most important is that every larva leaves behind it, attached to the wax walls of its cell, a thin layer of cocoon material. The result is that the diameter of the cell grows smaller with succeeding batches of brood. The difference, not very appreciable at first, amounts to a good deal in 8 or 10 years, with the result that bees are hatched out stunted in size, and inferentially, not able to do the same amount of work as the larger bees bred in new combs. I believe observing apiarists will confirm my observations."

That sounds plausible, and the beginner is very likely to think it entirely reasonable. Nor can he feel that there should be any less objection in this country, for bees fill cells with cocoons just the same in America as in Australia. But do the cells in old combs really have any less capacity than those of new combs? A transverse section of a very old comb will show that there has been such an accumulation at the bottom of the cell that the septum will be 1-16 to 1-8 of an inch in thickness, but the thickness of the cell-wall has not been thus increased. If it were, there would be no cell left, the opening being entirely filled. Moreover, patient investigations across the water tell us that upon measuring the amount of water in a new cell and comparing with that in a very old cell, the contents have been found the same.

If any harm comes from great age, it must come from the difference in the space between combs; for if the septum has become 1-16 of an inch in thickness, and the depth of the cell has been kept unchanged, then the space between two combs must be 1-16 of an inch less. When new worker-combs are spaced 1⅜ inches from center to center, the space between two combs is ½ inch. Whether making this space 1-16 of an inch may prove a damage, or whether there may not be compensating advantages, is a question. At any rate, the beginner who is anxious lest he may be getting smaller bees by not renewing his combs may be reassured by the fact that many of those who have had combs in use a great number of years tell us that they have observed no evil effects from continuing them in use.

As to the fear that old combs may be a favorable soil for evil germs, the soil for the propagation of the germs of the most dreaded diseases is found in the bee-larvæ, whether in old combs or new. Combs of foul-broody colonies are not to be trusted, no matter how new.

If old combs are so objectionable, would not one expect the bees themselves to show a dislike for them? So far from this, if they be allowed a choice between new combs and very old combs in good condition, do they not always choose the old, whether for brood or honey?

Apiarian Pictures

We would be glad to have those who can do so, send us pictures of bee-yards, or of anything else that would be of interest along the bee-keeping line.

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Advertising Honey for Sale

There are too few bee-keepers who have been bright enough to avail themselves of the opportunity to offer their honey for sale through the bee-papers. The Canadian Bee Journal has this to say on this very important subject:

"Very few, if any, bee-keepers advertise their honey for sale. The advertising appears to be left entirely to those wanting to buy. This is not as it should be. The men who have something to sell should make the fact known, then those who are wanting to buy can address them promptly. Many bee-keepers could dispose of their whole crop quickly and economically, and with a minimum of time and worry, if they got in touch with some one who would take their whole crop."

Produce a fine grade of honey, put it up in the proper kind of packages, then let the buyers know you have it for sale through an advertisement in the bee-papers—that's the coming way to dispose of more honey than you can sell in the home market. Try it and see. It should be easily possible to get many times more for it than the advertising costs, besides in all probability getting permanent customers for your whole crop each year thereafter.

Honey Articles for Newspapers

On other pages of this number will be found three of the ten articles for which the National Bee-Keepers' Association paid $5.00 each, using the money turned over to it by the Honey-Producers' League. The purpose was to get some really valuable matter on honey as a food that could be used by bee-keepers in their local newspapers, and elsewhere, perhaps.

The first three articles referred to are as follows:

1. "A Food That Fills the Bill," by Eugene Secor.
2. "Did You Ever Stop to Think?" by Ralph Benton.
3. "Where the Pure Food Law is Not Needed," by Rev. R. B. McCain.

From month to month we will continue to publish more of the articles, until all have appeared in these columns. We hope that all who can do so will request their local editors to copy them.

General Manager N. E. France, of Platteville, Wis., has this to say about the articles:

"These valuable advertising honey articles are now being printed, and a sample copy of each will be mailed you free if you will try to have your local papers publish same. No doubt we can sell or rent to your printer the cast type much cheaper than he can set type for."

Bee Journal for 1907—40c.

We still have on hand some complete volumes of the American Bee Journal for *1907*, which we will mail for 40 cents each. The first half of that year the Bee Journal was issued weekly, and the last half monthly, which would make 32 numbers. And all of them for only 40 cents! Surely this is a bargain for any new reader who has become a subscriber this year.

Notice of National Nominations

All members of the National Bee-Keepers' Association are requested to mail by postal or letter, to N. E. France, Platteville, Wis., on or before September 30, 1908, their nominations for candidates for the offices named below to be voted on at the regular December election:

President, Vice-President, Secretary, Treasurer and General Manager, and 3 directors.

October 1st, the General Manager and one disinterested member will count the nominations and publish results in all the American bee-papers.

Each member should send in the nominations *early*. N. E. France.

Platteville, Wis.

E. E. Kennicott, of Glenview, Ill.

He climbed a tree 50 feet high, cut off the limb and brought down the swarm shown, without getting a sting or losing any bees.

Why Not Bee-Keepers?

Wanted—3,000 practical farmers who would like to own homes of their own. The Government has nearly 200,000 acres of land lying under the various irrigation projects throughout the West for which water will be available next season. The farm unit on these projects varies in most cases from 40 to 80 acres of irrigable land, depending on location. In many sections a tract of grazing land has been included in the farm unit wherever practicable, bringing the total up to 160 acres.

The only charge for these farms, besides the regular land office fee for filing, is the actual cost of getting water to them, and payment may be made in ten annual instalments, without interest.

These irrigation projects are scattered over the entire arid region, from Canada to the Mexican line. In consequence, every variety of crop grown in the temperate zone can be raised under them. If you would like a fruit or dairy farm, a garden for market truck, a tract for diversified farming, hog or poultry raising, just write to the Statistician of the U. S. Reclamation Service, Washington, D. C., for particulars.

A "Queen" Under the Hat

We have received the following in reference to the queen that was on Miss Wilson's hat, mentioned in the July American Bee Journal:

Mr. Editor:—We are told on page 206 that even so versatile a gentleman as Dr. Miller could not account for the "queen on the hat."

I didn't think it of him. But even at this distance I can readily vouch that there was a queen *under* the hat.

Em Dee.

Em Dee is quite correct. He knows a "queen" when he sees one, or hears one even "afar off."

Death of C. Davenport

C. Davenport, of "Southern Minnesota," whose real name and address was C. Davenport Monette, Chatfield, Minn., a very bright bee-keeper, and the inventor of the Monette queen-clipping device, lately came to a tragic end, as noted in Gleanings:

"He was burned to death in his own home, where he lived alone, and had the reputation of being a very successful and practical bee-keeper. No particulars are known of the manner or cause of the fire; but his charred bones were found just in front of what was the doorway, indicating that he had made an effort to escape. He was only 42 years old, and was one of the brightest bee-keepers that we had in our ranks. Our sympathies are extended to his parents, who lived but a short distance away."

The American Bee Journal joins in the expression of sympathy to Mr. Monette's parents, for "C. Davenport" was a valued contributor to our columns some years ago.

Bee-Diseases in Massachusetts

This is the title of Bulletin No. 75, Part III, issued by the U. S. Dept. of Agriculture, and written by Burton N. Gates. A unique feature is a map show-

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ing at a glance the localities in Massachusetts having American or European foul brood, or both, as also possible sources of infection in neighboring States. The author thinks the disease made ravages in that State 80 years ago, the wax-moth taking the blame. Treatment is given in this condensed form:

"As soon as a colony is discovered diseased, and at a time when there would be no robbing, it is shaken on the old stand into a hive containing new frames with narrow strips of foundation. In this way none of the contaminated honey is deposited in the new cells. Should the disease reappear, which is sometimes the case, the operation must be repeated. In order to prevent the bees from swarming out, the queen may be caged in the hive for a few days or the entrance closed with a piece of queen-excluding zinc. Care should be taken not to scatter parts of the contaminated hive, particularly the honey, where bees can get at them."

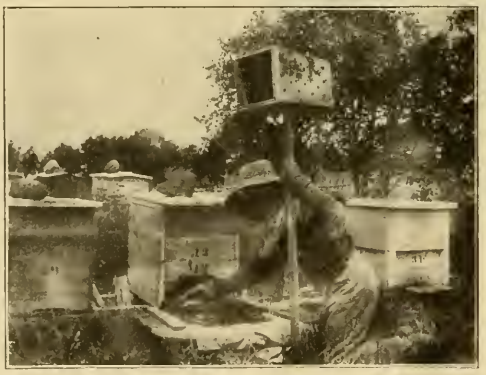
Apiary of George W. Delano

I am sending a picture of the apiary of George W. Delano, which is located at Ostrander, Wis. His apiary was begun 18 years ago by the purchase of 2 colonies, which were increased by natural swarming to 105 colonies. Like most bee-keepers he has had some loss which leaves him with 36 colonies now.

The picture shows Mr. Delano at work with his bees. He retired from farm life 7 years ago, and devotes his time to bee-keeping.

Bees in this locality are doing better than they have done for several years.

M. L. F.



Apiary of Geo. W. Delano, in Wisconsin.

Big Bee-Supply Season—Bottling of Honey

C. H. W. Weber, of Cincinnati, Ohio, wrote us as follows, July 10:

Editor York:—This has been one of the biggest bee-supply seasons we have ever had. This year's business has been treble last year's. At times we had more than we could attend to. We have handled about 14 cars of bee-supplies.

We are now bottling about 6,000 pounds of honey a day. We fill 6 bottles at one time. It is the cleanest way to bottle honey. The bottles are placed in boxes already filled, and the cut-off is so short that there is no drip. Some of this plan we took from Mr. Coveyou, of Michigan, that is, the pump and the agitator, but the balance is all our own. We can take care of car-load orders now, and get them out in at least a week. When filled they are ready to be shipped.

C. H. W. Weber.

Mr. Weber has consented to write an article for the American Bee Journal very soon, fully describing his method of bottling honey.

We are glad to know that at least with some bee-supply dealers there is "something doing."

Bee-Keeping in Maryland

Mr. Editor:—I send a picture of my apiary. I do not think that you have much if any correspondence from Maryland, as there are not many in the bee-business here. I run my apiary in connection with a 180-acre farm. It gives me much to look after, but as I am a lover of bees and honey, I take a great interest in them. My bees all wintered well, not losing any, and came out strong last spring, only they were a little late. The fruit-bloom gave them a good start. One week's rain was a drawback on the apple-bloom. Next was the locust, which is a great honey crop with us. The blackberry also gave a good crop. We also had one week of rainy weather during this flow. At present the bees have more than they can handle on the white clover, as it is more plentiful than for many years. By all prospects we will have a record-breaker of a honey crop. Some of my colonies have nearly 2 finished supers now.

Italian Bee-Yard of J. M. Myers, in Maryland.

I am working for comb honey, and preventing swarming as much as possible, which is a very tedious thing to do, although I was successful thus far. I have had but 4 swarms so far, and do not expect many more.

Maryland is not a bee-State. We have plenty of pasturage for bees, but the majority do not know how to get the results.

J. M. Myers.

Westminster, Md., June 1.

Meet Me at Detroit

E. E. Pressler, of Pennsylvania, stamps upon his stationery and price-lists the following:

"Will be at Detroit, Oct. 12."

Why couldn't all who send out much mail get a rubber stamp and do the same? It would advertise the National Convention in a most telling manner.

W. Z. Hutchinson.

We think it might be better to use the exact dates of the convention—Oct. 13-15. The rubber-stamp idea is all right if used in correspondence to bee-keepers. No one else would care whether the user of the rubber stamp expected to be in Detroit in October, or in some place else at that time.

Comb Honey at the Chicago-Northwestern

Editor American Bee Journal:—Please notify all interested to be prepared to exhibit a case, or rather a super, of comb honey, just as it comes off the hive, in the different sized sections and supers used. The exhibition is to be at the next meeting of the

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Chicago - Northwestern Bee - Keepers' Association, to be held in Chicago.

Please do not ship, but notify the Secretary of the Association and it will be brought before the Executive Committee of the Association to decide on the number of offers to be accepted, and which ones. The object of the Committee will be to have the best show of the greatest number of different

Apiary of B. F. Bartholomew, in Oklahoma.

kinds of supers possible from among those who wish to exhibit. The Association has offered $1.00 to each exhibitor of a super of comb honey.

It is important for those willing to aid in this exhibit to notify the Secretary promptly, so as to give plenty of time to make all necessary arrangements.

The Committee will do its best to have a creditable exhibit, and hereby bespeaks the hearty co-operation of all those interested.

The date and exact place of holding the next meeting will be announced later. Herman F. Moore, *Sec.*

Park Ridge, Ill.

A Bee-Hive Lifter

I enclose some pictures of a bee-hive lifter that I invented last summer. No. 1 shows the lifter; No. 2 explains how I let the lifter down over a 3-story hive; No. 3 shows the lifter with 2 supers taken off the brood-nest. You see, I don't have to set the supers down and smash bees; the supers hang in the lifter while examining the brood-nest. No. 4 shows how I move a 3-story hive. I handle the hives and supers without touching them with my hands.

In transposing 2-story hives I lift the 2 stories off the bottom-board and set them to one side, raise the lifter to the second story, lift it up and place it on the bottom-board, then set the lower one on top, all without touching them with my hand at all, except in changing the cover, and I am doing it with comfort.

When putting out the bees in the spring, and taking them in in the fall, I can do as much work as two men, and with more comfort.

Andrew C. Brovald.

Juneau Co., Wis.

Nebraska Semi-Annual Convention

There will be a semi-annual session of the Nebraska Bee-Keepers' Association in Lincoln, during the week of the State Fair. The meeting will be held on Wednesday evening, Sept. 2d, at 7 o'clock, at the Bee and Honey House on the State Fair Grounds.

All bee-keepers in attendance at the Fair should make an effort to be present. There will be interesting discussions, renewal of acquaintances, and exchanges of practical experiences.

Come to the Fair and see one of the best honey exhibits displayed in any of the Central States, and enjoy a meeting of one of the growing State bee-associations. Lillian E. Trester, *Sec.*

Lincoln, Neb.

Apiary of B. F. Bartholomew

The picture shows my apiary and my 3 little helpers. I started in 1901 with 2 colonies, and now have 72. Bees did very poorly this year until July 1. But some colonies have as much as 40 pounds of honey now. I kept swarming down by dividing, and getting good queens from an Oklahoma breeder. But after this I will be able to rear my own queens. B. F. Bartholomew.

Norman, Okla., July 27.

To Indiana Bee-Keepers

Mr. Walter S. Pouder, of Indianapolis, Ind., sends us the following which should interest every bee-keeper in Indiana:

Indiana bee-keepers will ask for the following measure at the next convening of our State Legislature You are requested to bring the matter before your respective Senators and Representatives that the urgent need of the measure may be thoroughly understood. The measure is being promoted by the Indiana State Association of Bee-keepers, and additional copies of this measure can be secured free by addressing George Demuth, Peru, Ind.; Jay Smith, Vincennes, Ind., or Walter S. Pouder, Indianapolis, Ind.

An Act

To provide for the appointment of a State Inspector of Apiaries, and to regulate the duties thereof; providing a penalty for disposing of, or importing into the State, diseased bees, or for hindering the Inspector in the fulfillment of his duties.

Be it enacted by the General Assembly of the State of Indiana as follows:

Sec. 1.—The State Entomologist of the State of Indiana, or his properly appointed deputies, shall constitute a State Inspector of Apiaries to aid and assist in the development and protection of the bee and honey industry in this State, and for the prevention and suppression of contagious or infectious diseases among bees, such as foul brood, black brood, paralysis, and so forth, which now exist in some of the apiaries of the State.

Sec. 2.—Said Entomologist shall, when notified of the existence of the disease known as foul brood or other infectious diseases among bees, examine such reported apiaries and all others in the same neighborhood, and, if satisfied of the existence of foul brood or other contagious diseases, shall give to the owner, or person having charge of any such apiary, full instructions as to manner of treating them. Within a reasonable time after making the first examination the inspector may make a second examination; and if the condition of any of the colonies affected is such as in his judgment to render it necessary to prevent the further spread

Part of Apiary of 60 Colonies of A. V. Phillips, in Neosho Co., Kan.

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of the disease, and the owners refuse to treat them according to instructions of said Inspector, then the Inspector may burn or otherwise destroy such diseased bees, hives, combs, and other appliances that might cause the further spread of the disease.

SEC. 3.—Said Entomologist shall have the right to enter any premises where bees are kept, for the performance of his duties.

SEC. 4.—The State Entomologist shall include in his annual report to the Governor such information in regard to the work of apiary inspection and bee culture as he may deem of interest and importance to the State.

SEC. 5.—Any owner of a diseased apiary, or person or persons, company or corporation, who shall knowingly sell, barter, or give away, or import into this State any colony or colonies of bees or appliances affected with disease or expose to the danger of other bees or affected appliances, or refuse to allow the Apiary Inspector to inspect or treat such apiary or appliances, or shall resist, hinder, or impede him in any way in the discharge of his duties under the provision of this Act, shall be guilty of a misdemeanor, and shall be fined not less than ten nor more than twenty-five dollars.

SEC. 6.—This Act shall go into force and effect upon its passage and approval.

The West Michigan Fair

This Fair will be held at Grand Rapids, Sept. 14 to 18, 1908. Mr. A. G. Woodman of that city, is the superintendent of the bee and honey department. The premium list is as follows, which is limited to Michigan bee-keepers only:

	1st.	2nd.	3rd.
Display of Comb Honey, quality, quantity, up to the amount of 500 lbs., appearance and condition for market to be considered. Premiums will be paid on a basis of 5 cts. per section for first, 4 cts. per section for second, and 3 cts. per section for third, for actual number of sections of Comb Honey shown. Maximum amount of premiums..	$25.00	$20.00	$15.00
Specimen case of Comb Honey, not less than 10 lbs., quality and condition for market to be considered.....	5.00	3.00	2.00
Display of Extracted Honey, quality, quantity up to the amount of 500 lbs., appearance and condition for market to be considered. Premiums to be paid on a basis of 5 cts. per pound for first, 4 cts. per pound for second, and 3 cts. per pound for third, for actual amount shown. Maximum amount of premiums	25.00	20.00	15.00
Specimen of Extracted Honey, not less than 1 lb., flavor, color, body and style to be considered	3.00	2.00	1.00
Display of Extracted Honey in granulated form; appearance, quality and quantity up to the amount of 150 lbs. to be considered. Premiums to be paid on a basis of 5 cents per pound for first, 4 cts. per pound for second, and 3 cts. per pound for third, for actual number of pounds shown. Maximum amount of premiums.....	7.50	6.00	4.50
Most attractive display of beeswax, quality and quantity up to the amount of 150 lbs., to be considered. Premiums to be paid on a basis of 5 cts. per pound for first, 4 cts. per pound for second, and 3 cts. per pound for third, for actual number of pounds shown. Maximum amount of premiums	7.50	6.00	4.50
Most attractive display of best honey-producing plants, pressed, mounted and named, not to exceed 25 varieties..	5.00	3.00	2.00
Italian bees and queen, single frame nucleus, in observatory hives	3.00	2.00	1.00
Black bees and queen, single frame nucleus, in observatory hives	3.00	2.00	1.00
Carniolan bees and queen, single frame nucleus, in observatory hives	3.00	2.00	1.00
Caucasian bees and queen, single comb nucleus, in observatory hives	3.00	2.00	1.00
Queen-rearing nucleus, showing frame of queen-cells, in observatory hives	5.00	3.00	2.00
Full Colony in full size observatory hive, showing different parts and appliances of hive, most instructive...	3.00	2.00	1.00
Largest, best and most instructive display of nuclei of different races of bees in single comb observatory hives	5.00	3.00	2.00
Largest, best, most interesting, attractive and instructive exhibition in this department, all things to be considered	15.00	10.00	5.00

Conducted by EMMA M. WILSON, Marengo, Ill.

A Sister's Questions.

1. What should I have done when on wanting to take off filled surplus super I found from the frames up to the bottom of the super a solid mass of comb honey, so that I had to tear the super out? I then cut out the comb honey under the frames. Did I do right? Will the honey drip on the brood-nest to hurt the bees? I cut out only 4 frames. I noticed the bees were around the super close to the frame of the hive at night.

2. Why should the comb honey from one hive be A 1 clover honey and the super full with sections filled out smooth and even, while another colony near should build uneven sections and have dark honey?

3 I saved a fine swarm from the first swarm. Will that be as good a yielder as its mother colony?

4. Why are the cells in the honey larger in some honey than in others, the honey coming from different hives?

5. Should the finished sections of honey be taken off as soon as capped over, and new sections put in?

6. Do you think that the deeper puncture of the sting causes the more swelling and poison, or are some of the dear little bees provided with a more poisonous sting than others?

7. Will it pay to hive all the swarms, no matter how late in the season? If I hived 2 small swarms could I unite them for the winter, and would they furnish enough honey for their winter stores?

8. I bought a colony of bees and moved them some distance, and I think I jarred the comb loose from the brood-frames. The bees built several irregular brood-combs, all lengths. Could I take the brood-comb and fasten it in new frames and transfer into new hives? Perhaps this will not be punished in time to help me out this year, but the caring for bees is like caring for a baby—it keeps one busy to keep them in good shape.

I am brave enough to hive a swarm of bees without veil or gloves, but I am not brave enough to climb a tree and saw off the limb on which the swarm is clustered, so I find the wire swarm-catcher a fine way to get the swarm from the ground. I have 5 colonies in old box-hives, and it would be impossible to dig down through the frames to hunt the queen to clip her wings to prevent swarming. I am putting all my new swarms in dovetailed hives, with movable frames, which will give me a chance to look the colonies over next year and clip the queen's wings to prevent swarming.

On June 18, I took off 20 pounds of prime white clover honey, also hived a fine large swarm of bees from one hive. Honey retails at 20 cents a pound. The season promises to be a bountiful one for honey, as there is so much white clover in bloom this year. There are only a few colonies of bees in this vicinity. IMA.

Geauga Co., Ohio, July 1.

1. It is not entirely clear, but it seems as if what are called burr-combs were built between the two stories, that is, irregular comb filled in the shallow space and filled with honey. You did the only thing that could be done, in forcibly breaking apart these fastenings. No danger of hurting the bees by the dripping honey. Indeed, you would have done well to let the bees clean up the drip before removing the super. Just raise the super enough to break apart the attachments, let it down again, and in a quarter of an hour or less you can lift off the super and everything will be dry.

Prevention is better than cure, and there are two things that may have been at fault. There may have been too great a space between the stories. It should not be more than a quarter of an inch. Or, the space may have been all right and the bees too much crowded for want of room. See that there is always abundance of surplus room, adding more room

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before the bees have filled what they already have. Generally it is best to add another super when the first is half filled; perhaps sooner if the colony is strong and the harvest heavy.

You say, "I cut out only 4 frames." I don't exactly understand; and perhaps the whole question is not rightly understood. If so, don't fail to ask again.

2. It sometimes happens that one colony works on a kind of flowers different from another, but that is not usual, to such an extent as to have one colony have light honey while another has dark. Some colonies fill honey close up to the cappings, making it look much darker than with the usual air-space between the honey and the cappings. I don't know just how to account for uneven sections, unless there was some local cause. A strong colony will fill out sections more plump and regular than a weak one.

3. The first swarm ought to be of the same character as the mother colony, as it takes the old queen with it.

4. Are you sure you can detect any difference in different colonies? You will find two sizes made by any colony—worker-comb, measuring 5 to the inch, and drone-comb, measuring 4 cells to the inch. Either kind may be used for storing honey.

5. Take off as soon as the whole super is finished. Often it is well to take off a super while the corner sections are still unfinished. Then a super can be filled with these unfinished sections and given back to the bees to finish.

6. A deeper puncture comes from the sting remaining longer in the wound, and when the sting is left the poison-bag is left with it, and the poison keeps being pumped in all the while, increasing the pain and swelling. There is also a difference as to what part of one's anatomy gets the sting. Probably you will not find a difference in the stings of different bees, although it is said that poison is worse at some seasons than others. Some say stings are especially bad when bees are working on buckwheat.

7. It will pay to hive anything rather than to have it go off; but it is best, if one can avoid it, never to have weak swarms. Whether two small swarms united will store enough to winter on depends upon the pasturage and the lateness of the season. Generally such swarms come too late for success.

8. Yes, if the combs are not too irregular. It doesn't pay to fuss with any that are very irregular.

The Yellow Sweet Clover.

Do you know that one of the chief apostles of sweet clover—certainly the chief apostle of yellow sweet clover—is not a man, but a woman? When you have seen the name A. L. Amos, like as not you have thought the name belonged to one of the brothers; but that name stands for one of the sisters, Mrs. Amos, out in Nebraska. If the value of sweet clover in general, and yellow sweet clover in particular, is not generally understood, it is not the fault of Mrs. Amos. The following account of some of the things Mrs. Amos has been doing is given by her in the Custer Co. (Neb.) Beacon:

EDITOR BEACON:—For the first time in several years, I have been out of "Farmer's Institute" work, as a representative of the honey-bee, but I have not been idle entirely in regard to the honey interests of the country.

For a number of years, by means of voice and pen, I have advocated the merits of sweet clover, more particularly "Melilotus officinalis"—the yellow blossomed variety, both as a forage plant for stock and as a honey-plant of sterling merit.

I commenced this in a public spirited way, without any intention of going into the seed business, for we are not fixed to take care of the seed in quantity.

Inquiries for seed became so frequent, however, that I cast about for a way to supply the demand in part at least.

For two seasons, now, the girls and I have been trying to harvest what we could to sell in small quantity to bee-keepers.

This season I have sent seed of yellow sweet clover into 22 States and Washington, D. C. Of these Texas got the most, making 3 calls, one of which was for 20 pounds. Other States that got 3 lots each were Illinois, Kansas, Indiana, Colorado, Missouri and California, while Neraska got 5 lots and Michigan 4. I could have sold much more seed if I had had it, for when I began to suspect that I would run out I limited orders to 2 pounds. I did run out after all, and for the last month or so I have been returning money for an occasional order.

The last order came to hand today from Hakodate, in far-away Japan, which is to be sent next fall, if present supply is gone. I feel that I have been engaged in a good work, and the satisfaction I feel is more to me than the "shekels" raked in. A. L. AMOS.

Quite a piece of yellow sweet clover was sown on our place last year, and although it did not make a good stand, enough of it has bloomed this year to give us some knowledge of it, especially in comparison with white clover. It does not grow so tall as the white variety, but the most important point of difference relates to the time of blooming. This year, in this neighborhood, the first bloom on sweet clover was seen June 1; on the white it was June 24; a difference of 23 days. We have been in the habit of thinking that that difference was against the yellow variety, Dr. Miller saying, "The yellow comes right in the time of white clover,"—only a week later than white clover this year—"and so it is of less value than the white sweet clover, which continues the flow after the white clover is gone." But last year, when white clover refused to yield any nectar, he changed his mind, saying, "In a year like this it would be a big thing for us if we had a good acreage of yellow sweet clover, for it would give us 3 weeks of flow before the beginning of the white variety."

What few stalks we had this year were busily visited by the bees right in the thick of the white clover bloom—a good test as to yielding qualities. If there is any difference, the horses seem to prefer it just a little to the white as green food.

Conducted by J. L. BYER, Mount Joy, Ont.

Crop Light, but Quality Good.

It is a little too early to say just what the crop of honey will be in Ontario this year. However, from a number of reports received to date (July 21), it looks like another very light crop. The average of these reports indicates about 35 pounds per colony. All my informants say the honey is of excellent quality.

Wherever buckwheat is grown prospects are good for a yield from that source, as the abundant rains of the past few days have been general over the country.

White Clover and Basswood.

"White-clover honey" is a misnomer as far as the product of the hive is concerned, in our immediate locality. Although our soil is of the very best, yet for some reason very little white clover shows up, and I venture the guess that, one year with another, not 5 percent of our honey is gathered from that source. Ordinarily, its absence makes but little difference to us, as we are in alsike district, and the white clover is generally through blooming as soon as the alsike. This year, however, alsike lasted but a short time owing to drouth, and I notice that where white clover is abundant the bees are storing a little, whereas our bees are doing nothing.

Basswood has done as usual with us—yielded nothing. Queer how uncertain that source of nectar is here as compared with Mr. Doolittle's locality. True, we have comparatively few trees, yet when they did yield a few years ago, a good crop was assured.

As may be surmised by the foregoing, our crop of honey is light, but as it is double that of last season, and very fine in quality, we do not feel like com

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plaining. While not in a buckwheat section, yet this year quite a large acreage of this plant has been sown, and with the nice rain now falling (July 17), prospects are good for at least enough buckwheat honey for winter stores.

Buckwheat as a Honey-Plant.

Speaking of buckwheat, I am at a loss to know if the plant yields no honey early in the season, or whether the bees will not work on it when clover is in bloom. A large amount of buckwheat came up among the oats and other grain, one field of 10 acres being literally white with the blossoms during the time clover was in bloom, yet, although we had a few mornings that one would think were ideal for the buckwheat to secrete nectar, scarcely a bee could be found upon the blossoms, and our honey from the clover was never whiter in color. As the bees do not work on clover in the early forenoon, at a time when buckwheat yields best, I was agreebly surprised to find it was not touched, as we fully expected to have our clover honey with a buckwheat flavor.

Few Swarms—Forming Nuclei.

In our apiaries we had only 8 swarms this year. At the one yard with no one in charge, only 2 examinations of the brood-chamber were made, and as no inclination towards swarming was noticed, I decided that unless conditions changed not to bother them any more. Today (July 17), with the clover flow over, I find that no swarms have left, so the apiary is in grand condition for a buckwheat flow, should it come.

When making the second examination of the bees two combs of brood were taken from nearly every colony, and the extra breeding-room given to the queens just at this stage may have somewhat discouraged swarming. All this brood taken away was tiered up on 5 weaker colonies, and one week later was used in forming nuclei. By the way, some 50 nuclei thus formed this season had queens introduced so successfully that I would not care if I never had a single swarm as far as getting increase is concerned. In the whole lot 3 queens were lost, one by accident, and I strongly suspect the other 2 were virgins, so, all things considered, I was very well satisfied with results.

The one loss characterized as an "accident" was caused by the queen in one colony over which the brood was tiered up, getting through the excluder. When forming the nuclei she was not noticed, and when a week later looking into one nucleus I was surprised to see a clipped queen. On looking in front of the hive, as might be expected, the young queen was lying there dead. I have formed many nuclei on the plan outlined, and this is the first "accident" of this nature that I have had, so I shall keep on using this method until I hear of something better.

Milkweed and Its Sticky Pollen.

If I am correct, milkweed is quite a yielder of surplus in localities where it grows in abundance. Judging by the eagerness with which the bees work on the blossoms, one can well believe that the plant yields nectar abundantly. Milkweed does not yield its nectar to the bees, however, without exacting a heavy toll from the busy little workers. On the few scattered patches around here, during the period of bloom, quite a few dead bees were noticed fastened to the stringy attachments of the flowers. Just what does the damage, I am not quite sure, but the pollen seems to be weblike and sticky, entangling the poor bee like a spider's web. A few days ago, while standing watching the bees coming in, a bee was noticed twirling around in the air, and then it fell to the ground just a short distance from me. On examination I found these milkweed webs entangling the bee, which had managed to tear away from the plant, but after all fell a victim to the fatal web.

I would be inclined to think that this bad feature of the milkweed would seriously decimate the population of the hive, when the bees worked upon these plants for any great length of time.

Since writing the foregoing I have referred to "A B C of Bee-Culture" and find my crude explanation of the webs to be very nearly correct.

Ontario Bee-Inspection Work.

Secretary Hodgetts has sent the Canadian Bee Journal the following information in regard to inspection work for 1908:

FOUL-BROOD INSPECTORS APPOINTED.

Five of the bee inspectors have been appointed, as follows:

J. L. Byer, Mount Joy—Victoria, Durham, Ontario and York.

Wm. McEvoy, Woodburn—Halton, Wentworth, Brant, Haldimand, Lincoln and Welland.

Jas. Armstrong, Cheapside—Norfolk, Oxford, Waterloo and Wellington.

W. A. Chrysler, Chatham — Essex, Kent and Lambton.

H. G. Sibbald, Claude—Peel, Dufferin, Simcoe, Grey and Bruce.

You will note that there is a redistribution of the counties, and we have not as yet chosen a man for Middlesex, Elgin, Perth and Huron. This appointment, I expect, will be made at the next meeting of the Council, when I will send you the additional name at once.

In reference to the eastern district, it has been decided this year to send a man down to these counties who is thoroughly conversant with foul brood in all its stages to make an expert examination of the apiaries in the most important centers. At the present time we have no definite knowledge that there is any foul brood in these counties outside of the attack of European foul brood in the vicinity of Trenton. None of the local bee-keepers there have had any experience with the disease, and are therefore not competent to examine apiaries to find out whether the disease is at all prevalent. It is likely that the man who is sent down will be in a position to point out to the bee-keepers in any place that he may visit the characteristics of the disease, should he find it existing there, so that in future we will have men in the east familiar with the disease. P. W. HODGETTS.

Before going to press we have received further information from Mr. P. W. Hodgetts in reference to the appointment of foul brood inspectors. He says:

"The Minister of Agriculture has decided to send Mr. Homer Burk, of Highland Creek, fo look over the apiaries in the eastern counties. He has instructions to spend considerable time there during the buckwheat flow, and to visit as many places as possible where apiaries are to be found. Two more inspectors have been appointed for the west. Middlesex and Elgin have been placed under the charge of Mr. John Newton, of Thamesford, while Huron and Perth have been given to D. Chalmers, Poole. It was felt that as the season was already well advanced, that one man could not properly cover the four counties, and it was therefore decided to divide it in this manner."

Conducted by LOUIS H. SCHOLL, New Braunfels, Tex.

Some Busy Times in Texas.

The fellow that's looking at you above has been busier than his bees for several months, harvesting over 40,000 pounds of comb honey, almost all by his wee little 6-feet-3 self, and, in consequence of this, has been unable to keep up with his pen-work, etc. That's the reason some of the questions asked recently to be answered through "Southern Beedom" do not appear this month. But some of us believe in "making hay while the sun shines," and that's what we are doing with our honey—the better half and I!

Moving Bees with Open Hive-Entrances.

We see advised once in a while by practical bee-keepers, the moving of bees in daytime with the entrance of the hives open. That this can be done, I am not going to dispute. I have been forced to do this more than once myself,

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caused by high water, etc. But I *know* it to be a dangerous and unsafe practise, and it is likely to cause serious accidents and loss. While most of the moving we do is done with the entrance wide open, with covers removed, and a 2-inch rim with wire-cloth tacked on in place of the hive-covers, I move at night, and usually try to move on moonlight nights, and never have had any trouble. But to advise it in daytime—I would say, "Don't do it."

Favorable and Unfavorable Reports.

The honey crop was fairly good in this portion of the country. That is, the spring crop. I fear the summer or fall flow will be cut short on account of drouth, as we have had no rain to speak of for 6 weeks. This, however, is just in this locality, as most parts of the State are having good rains, and we expect to hear some good reports from bee-keepers in the more favored localities.

Two Serious Objections to Carniolan Bees.

I have now had an apiary of 50 colonies of Carniolan bees for 2 years. I am well pleased with them as honey-gatherers, and comb-builders, but have two serious objections to them. First, the same old objection that has always been held against them — excessive swarming. I have never had anything to do with any other race of bees that could equal them in that respect. They are excessive swarmers for *sure* in this locality.

The second fault I find with them is their disposition to rear so many drones. Even young queens, only a few weeks old, will fill every drone-cell to be found in the hive with drone-brood. This is not only at swarming time, but at all seasons of the year when brood-rearing is going on.

The Weather and Honey Yields.

It is strange what different effects the weather, rain, etc, have on our honey-plants. I have lived in this county (Lampasas) for 18 years, and have never known the plant we call "Queen's delight" to furnish any surplus honey until the present year, when it was furnished a good surplus. But the quality is not first-class. "Queen's delight" has been mentioned to me at various times as a honey-plant, but I had concluded that there must be some mistake about it, as I had never seen a honey-bee on it until the present year, when the bees just swarmed on it. Now I am wondering if it will be 18 years more before we have another honey-flow from "Queen's delight."

Effect of Stores of a Colony.

My experience has always been that bees with a big supply of stores in their hives are more active, and more inclined to work in unfavorable weather, than colonies with just a moderate supply of stores. And especially is this true in the early spring. This is in reply to what Dr. Miller had to say in a late issue of Gleanings, where he mentioned a certain colony in the Wilson Yard, with a big supply of honey in their hive showing more activity than those with a less supply.

L. B. Smith.

Rescue, Tex.

The Texas Convention.

College Station, Texas, July 7.

The Texas Bee-Keepers' Association met this afternoon in room 12 of the main building, President W. O. Victor, and Secretary-Treasurer L. H. Scholl, being in their respective places. After invocation of divine blessing by Rev. John W. Pharr, President Victor delivered his annual address, following which there was a reception of members.

Under the head of general business, Louis H. Scholl, F. L. Aten and others spoke at length concerning business affairs of the association.

"The Selection of Location of Apiary" was discussed by T. P. Robinson of Bartlett, and W. O. Victor, following which there was a general discussion of this interesting topic. Louis H. Scholl explained conditions on swarming in bees, its causes and the means of prevention.

"The Preparation of the Apiary for the Honey-Flow" was discussed by J. M. Hagood, F. L. Aten, Z. S. Weaver, Louis H. Scholl, G. W. Cantrell, John W. Pharr, and others.

The most important session ever held by the bee-keepers' section of the Farmers' Congress at College Station took place the second morning.

The leading subject was opened by Prof. Louis H. Scholl. He discussed one of the most important subjects concerning the bee-keepers of the entire Lone Star State, that of the contagious disease of bees known as foul brood, or bacillus alvei. Every person engaged in the keeping of honey-bees, be his number ever so small, is deeply concerned in this matter of one of the most serious and virulent of all diseases affecting honey-bees, as it is rapidly spreading and threatens to spread from apiary to apiary throughout the entire country, dealing out destruction in its way. Therefore it is highly important that every person who has bees, be he a small or large keeper, become thoroughly interested in the work, as it is being taken up by the Association, that of preparing for the eradication of the disease of foul brood before it makes greater headway than already made.

This is a subject so highly important to bee-keepers that it is high time to begin immediately to aid in proper steps that will be formulated toward obtaining proper legislation and funds for carrying on the work.

The bee-keeping industry has grown so rapidly within the last ten years so that Texas is now pre-eminently the honey-producing State in the Union. The valuation of the bees, appliances and the honey crop amounts to many thousands of dollars to the State. Bee-keeping can well be classed along with the other more important industries of the State and it is growing rapidly. The honey-bee is the property of the bee-keeper as well as other property of others, and by being duly taxed for its valuation it would mean much for the revenues of the State, and in return for this the property of the bee-keeper should receive the protection of the State. This will be the object sought by the Texas bee-keepers through proper legislation.

There are many sections that are infected with the dread disease of foul brood, and although there is a State foul brood law, it is weak in many points, and besides there has been made no appropriation for carrying out the law, hence for lack of funds and other means the work can not be carried out, and is at present a dead issue, while the disease is spreading and threatening the whole industry.

Prof. Scholl receives hundreds of letters, asking for help from bee-keepers who are threatened with the destruction of their apiaries. But nothing can be done until proper laws are formulated and passed, with sufficient appropriation for the work.

It follows, then, that rigid inspection work be enforced. All apiarists who are found to possess bees in a healthy condition can be given a certificate to that effect, much as those used by orchard and other inspectors. Every owner of bees should be glad to possess such a health certificate, as it enhances the value of his bees to a great extent and aids in other ways.

The discussion took up almost the entire morning session, as this is one of the most serious problems confronting the bee-keepers at the present time.

A legislative committee of five was appointed for the purpose of reviving or amending the present foul brood law and obtaining sufficient appropriation for the work. Prof. Louis H. Scholl was made chairman of this committee, with Prof. C. E. Sanborn of College Station, T. P. Robinson, W. O. Victor and F. L. Aten to report at the next meeting.

"Prevention of Swarming and Increase" was discussed by F. L. Aten. He makes an examination of all his colonies in the spring to see that all have a good queen and sufficient stores so they will build up properly for the honey-flow. A 10-frame hive is advised, and when the lower chamber is filled, take another with empty combs and alternate them by replacing full ones drawn from the first. This will give them lots of room and causes them to fill up the upper stories, which are then extracted. Thus providing room will aid much toward preventing swarming. If a colony is handled too late and has already the swarming fever it is difficult to stop them.

"Best Method of Queen-Rearing" was discussed by John W. Pharr, giving his methods and explaining many methods used by leading authorities of the country. Some seasons it is very difficult to succeed well in the rearing of queens, while it is a very easy matter at other times. All this the queen-rearer must study out in his locality and then learn how to solve the problem.

The following officers were elected: F. L. Aten, president; J. L. Long, vice-president; Louis H. Scholl, New Braunfels, secretary.

The association has worked late and early and has carried out its program.—Galveston News.

GREAT men are they who see that spiritual is stronger than any material force; that thoughts rule the world.—Emerson.

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Keeping Bees Near Neighbors

BY C. P. DADANT.

How far should I place my bee-hives away from a dwelling-house? There are several houses not far from my bee-yard. I have about 85 colonies, and these people are making all kinds of threats, saying they will make me move my bees away off. Having been in the bee-business a great many years, you would likely be able to inform me about this.

WISCONSIN.

There is no law, to my knowledge, regulating the number of colonies of bees that any one may keep in one spot; neither is it possible for any city to enforce ordinances concerning the keeping of bees within the city limits. But if bees annoy people and cause damage or suffering by their stings, they may be treated as nuisances, and rightfully, too.

There have been numberless law-suits concerning bees, and many feuds between neighbors caused by their stings. Some dissatisfaction has also been caused by the bee-keeper sowing the seeds of honey-plants in waste places. We have ourselves heard numerous complaints because we scattered the seed of sweet clover in waste places. Yet those waste places produced noxious weeds, such as the ragweed, which causes hay-fever, and no one seemed to take notice, but as soon as a useful plant took the lead and eradicated the rag-weed some men were found who complained, even though sweet clover is just as easily destroyed as the rag-weed, and makes good feed for stock, if stock is allowed to graze on it early in the season.

Dissatisfaction among neighbors, as to the keeping of bees within short distances of homes, may be justified by conditions. If your bees are within close proximity of the public road, and are likely to sting teams that pass by, or horses hitched to posts at the front gate, the neighbors are right in making a complaint and objecting. Or if you handle your bees carelessly, without smoke, because you don't feel the necessity of it and the bees do not sting you, they may, nevertheless, sting your neighbor or his children 30 or 40 yards away. Let me cite an instance.

A very good friend of ours, a jeweler, in a neighboring town, kept a few colonies of bees. He was very close to another house, and the hives were not over 20 yards from the neighbor's kitchen door. For years all went smoothly because he had only pure Italian bees, which were very gentle. After a while his bees became hybrids, and were crosser, and one day his neighbor interviewed me to enquire as to what he could do to get rid of those bees, as his daughter had been stung two or three times, and once on the nose, and he said their back yard was becoming a dangerous place for them.

I went over to my friend and made enquiry. He was very much astonished, for he said, they had never complained. They evidently did not like to make a fuss about it. He assured me that the bees never stung him, and that they were very peaceable. We went to the bees together and, to my astonishment, he started to open a hive without using smoke. Two or three bees got after me, for I am not bee-proof, but my friend seemed to fear nothing from them. That gave me the explanation. When he examined his bees, they vented their anger on the neighbors.

I suggested to him that he should use smoke regularly, and avoid handling the bees at times when there was possibility of trouble. He not only took my advice, but moved his bees, at the first opportunity, to the other extremity of the yard, and there was no more trouble. Had the neighbor been a vindicitive man, there would probably have been some dispute, while by this means the matter was ended before trouble began.

I have never kept bees in a city, myself, having always had the good luck of being located on a farm, and always the same one, but I have placed apiaries at different farms, in close proximity to barns, to the public road, and there has never been any complaint. But we have always taken care to warn everybody as to the presence of the hives, and the necessity of avoiding hitching horses in close range, unless trees or shrubs separated the hitching place from the apiary.

If you must keep bees on a city lot, and your neighbors object, you should first make sure that they are not causing real trouble. Sometimes a neighbor will put up quite a little inconvenience, if he is well treated. I have heard of neighbors not minding a sting or two occasionally, because they were always sure to get a taste of the honey when there was a crop.

If the bees are causing real inconvenience, do not wait to ascertain your rights, but move them, until you can arrange your yard so as to avoid hard feelings. A high hedge between two lots will often be sufficient to keep the bees entirely away from the undesirable spot. A high board fence is sometimes quite sufficient, but angry bees may "jump the fence" in a spirit of revenge, and punish an innocent party. This is where pure Italian or Caucasians are best. Handle your bees always with smoke, and never too early or too late, or during stormy weather, and you may be able to avoid trouble.

I have kept bees, at a certain farm-house, within 20 feet of a kitchen, and the bees never did any injury in the yard; but there was a high hedge, very thick, between the bee-yard and the kitchen yard. On the other hand, I have seen bees, on a high hill, go down into the valley a hundred yards below and sting a team in the field. The way was open and the bees were cross.

None of us can blame a man for being angry, and demanding the removal of our bees, if they sting either his family or his stock. If he can prove damage, he can surely collect damages. There are, however, cases where spite will cause the demand of removal. Such cases are hard to deal with. But I have not yet seen a case where a little honey or something else will not mollify the party and smooth the unpleasantness. Another thing that may work well is the gift of a colony of bees. The man who detested bees sometimes becomes a lover of the bees himself.

The National Bee-Keepers' Association protects its members against imposition, but if there is any one thing which the several general managers of this Association have disliked, it is protecting a bee-keeper in his rights when there is clear evidence that if he had used a little diplomacy and tact to avoid trouble, he might have saved himself and the Association a vast amount of expense and law. But when trouble comes, and the bee-keeper is not at fault, it is right that he should find help, for our bees are not a nuisance; they are useful insects, and should be given fair play.

Hamilton, Ill.

Did You Ever Stop to Think?

BY RALPH BENTON.

We have often heard honey spoken of as a luxury along with English jams and the like to be indulged in only on rare occasions. But did you ever stop to think that honey is a real food containing several constituents important to the body as foods and so is to be numbered among the most economical of foods?

The carbohydrates or sugars are necessary to the human body, in witness of which fact we have that craving among children for something sweet. You ask a boy or girl if he wants honey or butter on his bread, and if he can not have both, nine cases out of ten he will say "honey." The same would have been true if you had asked him molasses or butter; he would have said molasses. But molasses and candies in general are what we call "cane sugars" or double sugars. These double sugars have to be broken down into "grape" or single sugars before they can be assimilated by the body as food. This is largely done by the saliva and unless the sweets eaten are mixed well with saliva and so converted, the body becomes over burdened with a non-assimilative compound which has then to be removed by the liver and kidneys, overtaxing in many instances these two much worked organs. The result is a child abnormally craving for sweets, which in the proper form the system really needs, but which as eaten, only become a burden to the body, having to be thrown out again.

Now honey, or more properly speaking flower nectar, when first gathered

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by the bees is a double sugar or cane sugar. But while the busy bee is flying home from the fields she is at work completing in her honey-sac the change of this cane sugar into a single sugar—or grape sugar. The honey then is deposited in the cells in the hive and evaporated by currents of air driven through the hive by the buzzing of bees stationed at the entrance to the hive for that purpose, until it is well "ripened" to prevent souring. It is then sealed up and ready to be eaten as a very wholesome food not without medicinal qualities, for honey has a very soothing effect upon the throat. It will be seen that the first stage of digestion is completed and when we eat honey we eat in so far a pre-digested food. Honey is thus a very economical food, supplying a real need of the system in a proper form, to say nothing of its deliciousness and real beauty on the table.

An Apiary of a Nebraska Amateur

BY REV. ALOIS J. KLEIN.

Coming into Brainard, Neb., via the Union Pacific Railroad from the southeast through the undulating country up the Oak Creek stream, gives the traveler a view of a town on a high plateau—1,670 feet above the sea-level—the ground descending from here in all directions. Here I have sojourned ever since September 5, 1893.

I began my bee-keeping career in 1899 with one colony of pure Italians, in a 12-frame, home-made portico hive with a gable cover, the whole hive being of a massive, yet neat construction. The colony and hive were a present from one of my parishioners, who conveyed it to me by wagon early in September across rugged roads over a distance of 13 miles. This colony, teeming with bees and overflowing with honey, formed the basis of my present apiary, and the progeny from this original colony is still holding its foremost place among my most excellent colonies of a foreign strain and later introduction.

Situated in a young orchard inside of the city limits, from 3 to 4 rods east of the Chicago & Northwestern Railroad track, in a naturally secluded spot, the apiary numbering 52 colonies, now is in its 9th year. The accompanying picture, which presents a view of only a corner of the apiary proper, was taken last spring as the trees were leafing out. The old-fashioned straw skep in front is an object of curiosity to visitors, calling to mind crude practices in primitive bee-keeping, and bringing back memories of "ye olden times." Painted 3 coats in white, red, yellow, light blue, and lead color, the hives with their entrances facing the west, are not set amphitheatrically, but in parallel rows and irregular groups of one, 2, and 3, each group different from the one next to it, and having a moderately shading fruit-tree as a distinguishing object near it.

During the years of my apprenticeship, I have, like many other tyros, been addicted to much experimentation, and tried several patterns of hives, until becoming convinced that for my system of manipulation, the ordinary 8-frame dovetailed hive with the reversible bottom-board and the improved Colorado cover, is best adapted to my conditions. However, I am more and more growing partial to the 10-frame hive, even for comb-honey production.

Three-fourths of my colonies are run for comb honey, with which I am supplying the local demand, finding, moreover a ready market in the neighboring towns. The balance is devoted to the production of the extracted article, in chiefly hives of odd makes, unfit for the section-super arrangement. I use the Cowan extractor, the Root-German wax-press, and intend procuring a comb foundation machine.

The supers are put on about June 1, regardless of the honey-flow, since I do not aim to wait till the bees are whitening the combs near the top-bars. Exceptionally populous colonies, if known as ready workers in the sections, are furnished 2 supers, and the hives are thus relieved of crowding.

The swarming impulse I am endeavoring to hold in check by timely providing ample space for storage and proper ventilation from the bottom (by reversing the bottom-board to the one-inch flight-hole, or sliding back the brood-chamber a little), and by providing shade for the entrance during the glaring heat of the afternoon hours, by means of shade boards.

Of the honey-producing flora, white clover (Trifolium repens) furnishes our principal bee-forage. Blossoming as it does from early in June, its honey-yield, during the past few years, has been abundant in our locality until towards the end of the month, arriving at its climax in the first 10 days of July.

Next in importance is the knotweed, or heartsease, (Polygonum persicaria) for the fall flow. Sweet clover was unknown here until recently; during the midsummer and autumn of last year I scattered some seed of the yellow blossoming variety (Melilotus officinalis) along roadsides and railroad tracks of this environment, and sporadic patches of the plant thus introduced have been seen already in bloom in June of the present year.

Fifty-two colonies, among them 3 nuclei, were prepared last fall for outdoor wintering. Not a single colony succumbed; all but one, which was somewhat decimated in bees, were found vigorous and doing well at the approach of spring. The wintering problem solved? Not quite, this perfect wintering being in the main attributable to the exceedingly propitious climatic conditions of the last winter season (1907-1908).

I carefully keep track of all my colonies and queens by the use of a record-book, each colony allotted a special page. Three or 4 of my best colonies are acting like a barometer in the apiary: if there is anything at all to gather from, notwithstanding how scant, they will always be the first and most assiduous to hustle for it.

After having passed the first two stages of successful bee-keeping—the initiation and expansion—I have secured a firm foothold in the industry. And now the last stage is on—the fruition. Because of my other duties, professional

A CORNER OF THE APIARY OF REV. ALOIS J. KLEIN, OF BRAINARD, NEB.

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and private, I have felt somewhat handicapped in the past to "convert the bright capped nectar advantageously into the coin of the realm," as R. L. Taylor says. Hence from a financial point of view, apiculture has not so far proved to be a bonanza with me. However, it has in more than one instance sweetened the cup of my daily pursuit. In fact, it is an edifying and interesting rural avocation for the enthusiastic amateur, possessing so many charms, both of study and of the modus operandi as well.

O, when the radiant bloom is on, and the nectar all but drips from the fragrant flowers, and when those powerful and agile colonies get fairly started, the vim and rush and roar can better be imagined than my pen can depict. Energy and hilarity are the sentiment of the scene. And in the cool of the evening shades—my daily work over—how I like to sit under my favorite linden trees, to rest and muse, gazing and listening to the magic music of the alluring hum of the heavily laden gatherers, eagerly hurrying home from the fields to their hearths! It is only the lot of a true beedomite to comprehend the fascination of such scenes in the apicultural domain.

Besides bee-keeping I have found no other diversion or side occupation that awakens impressions at once so wondrous, so pleasurable, so profound! Ever since my youth I have naturally felt attracted to the wonderful commonwealth of the bee, but it was not until in my later years, when a more stable abode enabled me to turn my attention to this placid idyl in my clerical life, and find enjoyment therein.

Brainard, Nebr., July 3.

A Food that Fills the Bill

BY EUGENE SECOR.

There are ever so many prepared foods on the market nowadays, and it's a dull month that doesn't add another to the list.

We are frequently surprised by our grocer offering us something in that line which we never before heard of.

The new food may prove attractive, appetizing and nourishing, and continue to tempt us to buy, or we may tire of the novelty and long to go back to the old standby that has proved its value by furnishing us with muscle or brain force to tussle with life's hard problems.

Food, to meet the requirements of the human system in this busy, work-a-day world, must possess at least three qualities. It ought to be

1. Nutritious.
2. Appetizing.
3. Digestible.

The first because our physical natures need rebuilding all the time. The wastes caused by labor or exercise, by growth, and in fact by the simple act of breathing, must be supplied by food.

The second because we need all the pleasure possible to be had out of the rebuilding. If the wind should blow some shingles off our house every day and we were doomed to climb a ladder every day to replace them whether we liked it or not, we'd soon get tired of repairing the house. But if somehow we could make fun out of the job instead of work, the shingles might fly and we wouldn't care.

It is fun to eat when things taste good.

The third requirement is necessary because our modern life has impaired our digestive organs more or less and some foods which the aborigines might have gulped down with impunity are a menace to our nervous and impaired constitutions. Our comfort and health depend upon our digestion.

Not only do the staple foods come under these requirements, but the so-called luxuries, condiments, and seasoning foods may aid or retard the digestive process. If they are agreeable to the stomach and are readily assimilated they aid in sustaining the body and in building up the wasted tissues. Good butter is nourishing, agreeable to the taste and digestible in small quantities.

Cane sugar is nourishing and agreeable to most people but not readily assimilated. It taxes the stomach and kidneys and often leads to serious ailments.

As an appetizer, taking the place of butter or used as an adjunct thereto, supplying the demand of the body for sweets, there is nothing which quite equals honey. This is a sweet distilled in nature's laboratory that has never been excelled by the genius of man. He may try to imitate but he cannot impart the aroma, the delicious flavor of the wild wood or the blossoming garden or the scented field. He may distill something from corn that looks like it but he cannot fool the bee into thinking it honey. And he can't fool the chemist either, and wherever the pure food law is in force the chemist traps the man who is calling glucose honey. Therefore there is little adulterated honey on the market, but if one wants it in the liquid, or extracted form let him buy only from reliable men or under the guaranty of the National Bee Keepers' Association. And if one wants to be absolutely sure he is eating the genuine, heaven-distilled and bee-manipulated article, let him buy comb honey with the assurance that no man has ever yet been able to imitate the bee by faking the delicate comb which holds it, or the delicious syrup that fills it.

Not only is honey appetizing, but it is nourishing. It is a real food. It builds wasted tissue.

Not only is honey palatable and nutritious, but it is assimilable. It agrees with most people. It is much more easily digested than cane sugar because it needs one less transformation in the stomach. It enters more readily into the circulation and doesn't tax the organs that are overworked in trying to take care of commercial sugars. Kidney diseases are comparatively unknown among persistent users of honey.

When the clover fields are white with bloom, and the linden shakes its creamy cups, and summer is drunk with a thousand perfumes, the provident bee garners the matchless food that needs no cook to prepare it, no spice to season it and no fair hand to tempt us to eat what God has provided in the great storehouse of nature for all his children.

Marketing the Honey Crop

BY G. M. DOOLITTLE.

My first experience with marketing honey was when I was quite young, my father loading on the wagon what his 4 or 5 colonies had produced that season, and taking me along with it to our village. I held the horse while he brought men and women out to see the honey, all in 15-pound boxes, each turned bottom-side up, to show the nice, white capped combs. This honey was barter for anything our family could use in the line of groceries, cloth, boots, shoes, etc., and in this way he would dispose of all he could produce, even after he numbered his colonies by the score.

But those days have passed long ago, and cash sales are the order of the day now, hence the marketing of honey is a more important question now than it was then, for a person may succeed in producing a good article of honey, and so put it up and force it upon the market, that it will not bring the producer as much as a third or fourth class article would in those old days of barter. At the present time, a good price for honey depends very much on the condition in which it reaches the market. Some will take their honey to market in bulk, piling the section boxes into a spring wagon in a haphazard way, and, driving to the nearest town or city, offer it for sale. As a rule, the grocery man looks at it and soliloquizes thus:

This honey is in a poor shape for me to sell, and if I put it in attractive shape it will cost me a cent a pound at least; also, this honey shows that the producer does not know the value of his production, or he would have put it up in marketable shape, therefore, if I buy it will be at a less figure.

So he offers 3 or 4 cents less than he would expect to pay for the same quality of honey nicely crated and offered for sale by a person knowing what such honey was worth in the different markets of the United States.

While passing through the city of Syracuse a few years ago, I stopped in several places where I saw honey, and enquired the price they paid for it. The groceryman, pointing to a lot of perhaps 60 pounds, in a pile without cases, informed me that he got that lot at 10 cents; and then turning to a lot which was no better, but nicely put up in handsome cases, he said, "That lot cost me 13 cents." Upon questioning him further, I found that he was retailing both lots at 16 cents a pound. This was about the difference in price I found generally, although in one or two places it was not more than 2 cents.

From this it will be seen that it pays largely to case nicely our product; and if I had but 50 to 100 pounds of section honey for sale, I should fix it up as nicely as possible and case it, by all means, not only because it would pay, but also because it would help to establish a better price for honey, as well as a more uniform price for it throughout the country.

In casing our honey it should be graded, so that the very best or fancy should all go by itself, and the same of No. 1, No. 2 and so on down to the poorest.

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To grade it best, I pick out 2 or 3 sections of each grade and put them up on a box, shelf or bench in front of where I take the sections from the supers, then as soon as one is taken in the hand I know exactly what grade that section goes in. It is now put down where it belongs, and as soon as another is found like it, that is put with it, and so on with each grade until enough has accumulated of any one grade for a case, when they are carefully scraped free from propolis or stain, or any dirt which may chance to have gotten on, and nicely cased and the case put in the place that grade of honey is to occupy. As soon as a case of another grade is gotten together, or another of the same grade as the last, these are cased also, and so on till all are put up.

Well, after casing our honey and getting it in the most attractive shape possible, "What shall we do with it?" is the next question. In answering I would say that much depends upon the amount of honey we have, and our surroundings. If not more than 100 to 500 pounds are produced, as a rule, it can be disposed of among our neighbors, or in the nearest small towns about us, to the best advantage. However, before we sell our product we should know what it is worth to us, if we send it to some of the large cities. To do this, I take up the American Bee Journal and look up the market reports on honey, if I should ship it away to market. I then figure what the expense will be to me by way of freight, commission, etc., when I have what my product would bring me at my nearest railroad station. For example: The freight rates from my station to New York City are 45 cents per 100 pounds; but, as this is gross weight, by making due allowance for the crate, I find that one-half cent a pound is about what the freight will be on the whole. Then I find by looking up the quotations that I can expect about 15 cents per pound for my honey on an average as the selling price, if I ship it to New York. Then my commission man will charge me 10 percent for selling my honey, which would be 1½ cents per pound. This added to the freight would make a cost to me of 2 cents for the marketing of my product in New York. This would bring the price at 13 cents; hence it will be seen that if I can sell my honey, so it averages in my home market, or near-by villages, 13 cents, it will be as well for me as to send it to one of the large cities.

If every one having honey to sell would adopt this line of reasoning, and case his or her product nicely, they would not only be "masters of the situation," but help much to establish a uniform price for our product, which is something greatly to be desired.

Another thing: If all would hold the price of their honey at the figure thus arrived at, all would get what their product was really worth, and we would soon find that our smaller towns would pay the same uniform price, as well as the smaller cities, and we should be taking long strides toward making our honey, as nearly as it is possible, a staple article of merchandise.

Borodino, N. Y.

Where the Pure Food Law Is Not Needed

BY REV. R. B. MCCAIN.

The shameless manner in which articles of food have been adulterated has called forth the stringent regulations of our national pure food law. General satisfaction with the provisions of the law has been expressed by the public, but that satisfaction is tempered somewhat by the knowledge that the best legal talent and the keenest qualities of human ingenuity are exercised in these days in finding ways to evade the law. What the ultimate result of the pure food law will be cannot be known. Time alone will tell.

It is interesting in this connection to note the fact that in the case of comb honey the provisions of the pure food law do not and, in the very nature of the case, cannot apply. The fact that honey is stored and sealed in honey comb is in itself a sufficient guarantee of its purity. This statement is made all the more interesting in view of the fact that it is very generally believed that comb honey can be adulterated.

Comb honey is the product of the hive bee under human direction and management. The little cells in which honey is stored are built up by the bees themselves of pure white wax. This wax is a secretion of special glands in the body of the bee. By skillful handling in the "pinchers" located in the lower part of the bee's head, this wax is drawn out to the thinness of fine tissue paper. The cells are six-sided in shape and, in the majority of cases, are about one-fifth of an inch in diameter. They fit so compactly together that but a single thickness of wax is needed at sides or bottom, thus economizing both space and material.

Man's care and intelligence in the management of bees is rewarded in the finished product of the hive, pure comb honey. It will add much to the enjoyment of the one who eats comb honey to know that when once the seal has been placed on the cell by the bees, it is beyond the power of man to modify the contents without breaking the seal. The seal once broken, it is beyond his power to replace or counterfeit it.

With comb honey before him, the seal of the bees intact, the lover of nature's choicest sweet may eat to the full. He knows that upon his food he has the seal of authority higher and more binding than could be placed there by any human legislation.

Comb Honey and Digestion

BY DR. G. BOHRER.

On page 749 of Gleanings, for June 15, 1908, under the heading "Stray Straws," the following language is used:

"Sometimes the objection is made to comb-honey that the wax is indigestible. Probably in no case does that do any harm, and, in some cases, the indigestibility of the wax is its greatest recommendation. In cases of chronic constipation, comb honey has been reported beneficial when extracted would have no effect."

Please permit me to state in reply to the language above quoted that the fact that wax has been reported beneficial in possibly some cases, proves beyond a doubt that it acts as an irritant. For to no other property can its possibly beneficial effects be attributed in cases of constipation. Wax never was, is not now, and in all probability never will be, classed as even a mild laxative, to say nothing about it as a cathartic proper. And for the very prominent reason that it acts as an irritant instead of acting as a stimulant proper, it should be avoided by all persons whose digestive organs are sensitive, easily irritated, and excited until abnormal action. Hence to assert as the writer quoted does, that probably in no case does it do any harm, is not in accord with any standard author upon the subject of digestion, its causes and treatment. Neither is it in harmony with the observations and experience of our older and most scientific practitioners of the healing art.

I remember quite distinctly that when actively engaged in the practice of medicine, several cases of cancer of the stomach came under my care. Among other articles of food as mildly non-irritating as I could advise, honey free from comb, or wax, was recommended. And as a matter of taste as to looks, honey in the comb was tried, and could not be borne by a cancerous stomach, and when the extracted was submitted, it was quite well borne.

And while upon this subject, I desire also to state that it is a well-known fact that occasionally a person is found who can not use honey in the comb as food, it being almost certain to induce spasmodic colic, which in all reasonable probability is caused by the poison that bees invariably expel upon the slightest jar or disturbance of the hive. Only a very few persons are susceptible to the influence of the small amount of bee-sting poison thus scattered over the combs. And when the cappings are removed preparatory to extracting, the poison is almost, if not entirely, removed, leaving the bulk of honey free from this source of irritation to persons peculiarly susceptible to its effects. And if the limited amount of honey obtained from the cappings be kept separate, it can easily be fed back to the bees, and need never be put upon the market.

Permit me to state that in what I have above given as facts, I have done no guessing, but have used my best endeavors to give actual statements, which it is to be hoped all are in search of, and which can bring no harm to the sale of the products of the bee-industry. But, on the contrary, with the increase of a true knowledge of the fact that honey in the extracted form is in its highest, purest, and best shape for food, and that under the strict enforcement of the pure food law, and the known fact that more honey can be produced in the extracted form, and that pure honey free from all sources of irritation to the human digestive organs is by all odds the most wholesome sweet ever used by man, the sale of honey will increase beyond any demand heretofore known.

Before dismissing the subject, it is but proper to say that many persons do use as food articles not in harmony with

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the known laws of health, and for a time sustain no apparent injury. But, as a rule, in time it will bring about disastrous results. Men use intoxicants to excess through a long life, while very many others fall victims to their effects in a very brief period of time. And so it is with beeswax. It may be, and no doubt often is, eaten without any apparent evil consequences, but the tendency is in the opposite direction. But if it is known to be beneficial in obstinate constipation, one good-sized pill will answer for use in a whole family for a lifetime, for the digestive organs will not in any manner disqualify it for future and perpetual use.

Lyons, Kans.

Report of the Chicago-Northwestern Bee-Keepers' Convention.

(Continued from page 212.)

Uses of Propolis and Pollen.

"Of what use are propolis and pollen to the bee-keeper?"

Mr. Taylor—No use except through the bees. Bees must have pollen. Propolis fills up cracks, and smooths the surface.

Dr. Miller—In Europe propolis is used as a matter of commerce, as a sort of salve. Also a varnish. Pollen is of no value whatever except as a food to bees. It thus has more value than the average bee-keeper thinks. A pound of pollen in some circumstances would be worth 10 pounds of honey.

Dr. Bohrer—Propolis as to medicinal property is very unreliable. It is not used at all extensively. I don't think it is of any use, but a great pest. Propolis partakes of the nature of the flower from which it is gathered.

Mr. Lyman—It has seemed to me that both propolis and pollen have a bearing on the flavor of honey, provided it is left on the hive long enough.

Mr. Burnett—Would a few cells of pollen in a comb of honey hurt the sale? I never have been able to answer the question as to the effect it would have. Does it affect the taste of the honey in the comb, or just in the cell?

Dr. Miller—The pollen has no effect on the honey in the comb except that one cell. If you cut out that cell the rest of that piece of honey will be just as good as if there had been no pollen.

Mr. McCain—Is it true that if a section has one cell on a comb full of pollen, that the rest of the cells would have pollen distributed through them.

Dr. Miller—I think not.

Mr. Dadant—I think the statment was that when pollen is mixed with the honey in any large quantity. A bee can sift out the pollen from honey in the honey-sac. The worst feature is when the pollen is in the bottom of the cell. I believe that in most cases it will be found to be so, although there are instances when the honey contains a great deal of pollen. White clover contains no pollen, or so little that it is impereeptible. It makes a dark spot, but is not objectionable.

Mr. Burnett—It has more importance commercially than we perhaps think. Many people think that it is some form of so-called "dead matter." The venders will not buy anything that is likely to be objected to. Is there any possibility of any bad effect on the stomach?

Dr. Miller—No. How many like occasionally to taste the pollen? One.

Mr. Moore—The greatest objection to comb honey with pollen is that it is a breeding-place for the moth. I have had several cases. Keep pollen out of comb honey.

Dr. Miller—Mr. Burnett, do you find honey and pollen also in the cell.

Mr. Burnett—No, no honey; just pollen.

Dr. Miller—The chief objection is because moths will start in the pollen and work over the comb. The section that has unsealed pollen in it is likely to be a wormy section.

Mr. Taylor—The fact that moths seek the pollen and flourish there in preference to honey, shows the comparative value of pollen as food. A colony without pollen can not rear brood. The same is true with the moth. It could not live on honey. It must have pollen.

Mr. Lyman—What causes the so-called honey-flavor in honey?

Dr. Miller—The oil that comes in from the flower.

Mr. Wilcox—And the smell from the volatile oil.

Mr. Chapman—That is a good question. These volatile oils are subject to contamination by whatever is put with them. That is the way perfume is made.

Mr. Lyman—If you have honey from a certain flower, will the pollen effect the flavor?

Mr. Dadant—In the blossom there are 3 smells—the smell of the petal, the smell of the pollen, and the smell of the honey. Perfume is made from the petals. Pollen has a very faint smell. The way the pollen in the hive gives flavor to honey is of very little importance, because the pollen is separate from the honey. The Italian bees put honey in more compact shape, and fill every cell wherever they can. A few grains of pollen in a section, I imagine, can not have any effect worth mentioning upon the honey, especially as the honey is not in the dust shape, but is in a paste. You will see bees pass by a rose which gives its smell from the petals, because there is no honey. Bees will go after honey in flowers that have no odor. Bees will go into blossoms only when there is honey. Bees will pass white clover if no nectar is in it. There are very distinct smells in a flower. A bee will find the flowers that have the smell of honey, although there is no smell of petals. The blossoms that you and I like because of their smell are disregarded by the bees.

Mr. Wheeler—That is a nice story. It sounds good, but I have seen bees alight on white clover without attempting to gather honey.

Mr. McCain—In regard to the pollen giving a taste to honey, I would say that I have honey now that was gathered by the bees last season, and a few days ago, on trying it, I hit some of it that had a strong pollen taste. I looked to see where that pollen was and could not find it. There were no pollen cells, either sealed or unsealed. There were no pollen-grains. The pollen taste was very decided. I believe that the presence of pollen in the hive in some way gave that honey a very strong flavor.

Mr. Moore—I absolutely condemn any pollen in comb honey for the market, on account of the looks, and the possibility of the moth breeding in it.

Dr. Miller—To one of the moth-larvæ the idea of going through honey would be nastiness in the extreme. I don't believe they would go into honey.

Mrs. Holmes—The egg is carried in with the pollen. I don't think the worm lays its egg in the honey.

Large vs. Small Hives.

"Some prominent bee-keepers state that an 8-frame Langstroth hive is as profitable as a larger one, and that such hives give as good results per comb as large hives, say 12 to 15 or more frames. What results have any present had with large vs. small hives?"

Dr. Bohrer—One of the first movable-frame hives I ever used was either 16 or 18 frames. I got more honey from them than from any other colony I ever had. That was in Indiana, and right beside others in 8 and 10 frame hives. In Kansas I have had none larger than the 10-frame until the past season, and this season was none to compare by. I am of the impression that if you have the best kind of a queen, that you will get better results from a 14-frame standard Langstroth than from one smaller.

Mr. Anderson—I have kept both side by side for nearly 40 years. I have about 40 colonies in 10-frame hives and about the same in 8-frame hives. I am increasing my 10-frame hives. They will fill 28 sections as quickly as the colonies in 8-frame hives will fill 24 sections. The only objection is the weight.

Growing Sweet Clover.

"Will sweet clover grow in any kind of soil, and in any part of the United States? If not, why not? Is there any practical way to make it grow as indicated?"

Mr. Wilcox—I have tried to grow it repeatedly, and have never made a success of making a good stand. I have

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sowed it with grain, and the winter snows would melt and then freeze solid and smother out the grain, then the sweet clover would grow. It doesn't grow on the roadside. I have sowed it on heavy soils, and when it once got rooted it grew. It does better on hard land, and where it grows in our State is principally on hard, sandy ground.

Mr. Anderson—It grows well by the roadside.

Dr. Bohrer—I never sow it on hard ground, but in the spring I scatter it along the road under the hedges, and along fences. It grows there.

Mr. Wilcox—Where the grain died out is where sweet clover grows. Sow the clover with the grain. In producing alfalfa, it is recommended by those experienced that you should not sow it with other crops of grian, but sow it alone; and that is the surest way of securing a good stand. I suppose it is the same with sweet clover. There may be something in the talk in regard to bacteria. You may lack bacteria to start sweet clover. It is believed that if you use soil where sweet clover grows the bacteria will start the alfalfa. Where sweet clover has never grown introduce proper bacteria.

Mr. Burnett—For some years we undertook to raise alfalfa by giving it great care, and no care, etc. But we had the best results on land that was tilled and no crop put in. Then we would get very poor results. I am satisfied from what I know of sweet clover that if you can get a little soil from around the plant and mix it with seed, almost every seed will grow.

Mr. Baldridge—No, it will not grow on any soil, but it can be made to do so. In Arkansas I am advised that they have a great deal of soil that will not grow sweet clover. They claim that there is no lime in the soil. Sweet clover must have lime. Supply the soil with lime and you can grow sweet clover. You can grow it with ashes. You can plant sweet clover in hills and put in a pound or a quart of ashes. Coal ashes will make it grow. I have grown a box of sweet clover—yes, a foot high—in simply coal ashes. I have a photograph of that growth. There is lime enough in the ashes of hard coal to make it grow nicely. You can get an abundance of that thing wherever they use hard coal. I claim you can make it grow on any land by using lime or coal ashes.

At this point Mr. Whitney gave a very interesting exhibition of his new comb-leveler, and also his method of wiring brood-frames.

Standard Size of Sections.

Mr. Winter—When I started in bee-keeping I bought the 4¼ plain sections. What is the standard size for sections?

Mr. Taylor—4¼x4¼—7-to-the-foot.

Mr. Wheeler—4¼x4½, bee-way section.

Dr. Miller—How many prefer 4¼x4¼—7-to-the-foot, bee-way sections? 5. How many prefer 4¼x4¼x1⅞ bee-way? 5. How many prefer plain sections? 6. How many prefer bee-way sections? 12. How many prefer tall sections? 2. How many prefer 3⅝x5⅜? 1.

A Member—The 3⅝x5⅜, 7-to-the-foot 2 bee-way section makes a very handsome section. I like them. My bees will work them quicker than the 4¼ sections. I think they work the tall sections quicker.

Langstroth or Shallow Frames for Extracting.

"Which will produce the most honey, all things being equal—the standard Langstroth frame, or the shallow frame, for extracted honey?"

Mr. Wilcox—I do not believe it will make any difference in the quantity. But it might make a difference to the operator. I prefer the Langstroth myself.

Mr. Dadant—The depth of the shallow frame must be considered. If the shallow frame is as shallow as the sections, I believe there is no doubt. If you place the question in a different light; if you, as I do, use a larger hive than a Langstroth, then I would say that a shallower frame than the Langstroth would be easier to handle to extract. We get comb a trifle less than 6 inches in depth. A stroke of the knife will cut it without going twice over it. I believe these frames will prove more satisfactory to apiarists. Where there is a small crop you give the bees full Langstroth frames when there is no need of giving such large frames, except in extraordinary seasons.

Pollen in Surplus Honey.

"Can pollen be kept out of the surplus chamber when supplied with sections or brood-frames? If so, how?"

Mr. Wilcox—I never had any trouble with pollen in sections, for a queen doesn't go in them. A streak of honey in the brood-frame next to the super tends to prevent pollen getting into the sections. I would put on a queen-excluding honey-board. If you hive a swarm and put the sections on the same day, or the following day, the queen will get there quickly, and there will be pollen there.

Dr. Miller—One thing that helps to keep pollen out of the sections, and the queen out of the sections is to fill the sections entirely with foundation. If a section is only partly filled with foundation, the bees will build drone comb, and I have known bees to leave drone-cells above, apparently waiting for the queen to come up and occupy. I have no trouble to speak of at all. I don't use queen-excluders at all. The amount of pollen and brood that I find in the super wouldn't pay me to use excluders. I have the sections entirely filled with comb foundation.

Mr. Wheeler—I notice a peculiar thing about foundation in the sections. In using the Heddon hive, I find that if I hive a swarm in two sections, and leave them there 2 days, then put on the honey super, I have no trouble. But if I hive the swarm at once and put on the honey-super, the bees having no brood to feed that pollen to, store it in the sections. I leave off the comb honey super for a few days and let the bees get well established, and then crowd the bees into the lower part and put on the comb-honey super.

Dr. Miller—Along this line of pollen in sections I will relate a little incident. Quite a number of years ago a man wrote, asking why it was that in sections that he had over shallow brood-frames he had a great deal of pollen, and over hives with deeper frames he had no pollen? I answered that it was a mere happenstance; that bees wouldn't carry pollen into the sections over shallow frames as they would in deep frames. Not long after I got some shallow frames. I have 2 colonies on shallow frames. In the sections produced over those frames I had more pollen than in 100 full sections over Langstroth frames. I don't know whether that is always the case.

Mr. Reynolds—A normal colony would be prepared to swarm and would not have much pollen. If the "shook" method is used, they would be in the habit of gathering pollen.

"Can bees be induced to remove the pollen when stored in the surplus chamber? If so, how?"

Dr. Miller—I have had pollen removed simply by leaving it there long enough. If you take the frames that are entirely filled with pollen, in the course of time the bees will work out the pollen. But if it is stored in the sections, I know no way of getting it out.

Mr. Dadant—Would not pollen in the sections, even if taken out, leave a stain in the sections? I don't know. Have you had sections with a black spot here and there, but no pollen?

Dr. Miller—I have never noticed it. I have never thought of it before. I laid it to the brood.

Removing Eggs.

"Can bees be induced to remove eggs or brood in the surplus chamber when desired by the bee-keeper? If so, how?"

Mr. Taylor—Kill it.

Mr. Wheeler—Kill it by leaving it off the hive for a few days.

Dr. Bohrer—Yes, by immersing the frames in water. It will float the brood and eggs out.

Dr. Miller—Simply dipping down in the water would not in all cases bring water where the eggs are.

Mr. Wilcox—Lay them down flat on the ground in a rainstorm.

Mr. Baldridge—Very frequently I find brood in the surplus apartment. I can get the bees to remove the brood or the eggs very readily by sprinkling them with water. I use a device such as the florists use to sprinkle plants. The brood will immediately be removed by the bees. This is especially useful if you want to sell the honey in the brood-combs.

Mr. Wilcox—The question of removing bee-bread is valuable. But as for removing brood, I never saw the time when I couldn't put it somewhere else.

Mr. Baldridge—Suppose you had a colony with eggs or unsealed brood of black bees when you have Italians. Water will remove every egg and every larva.

Adjournment to 2 p. m.

(To be Concluded)

FOLKS WHO NEVER DO ANY MORE THAN THEY GET PAID FOR, NEVER GET PAID FOR ANY MORE THAN THEY DO—Hubbard

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Getting Bees Out of Extracting Supers.

Elias E. Coveyou gives this plan in the Bee-Keepers' Review:

"If the day promises to be sunny and warm, I begin taking off the supers in the morning. As I use plain, flat covers, I can set the supers on top of the brood-chambers, on the covers, piling up the supers 3 or 4 high, placing a cover on the top of each pile. The supers remain there in the sun until it is time to begin extracting in the afternoon. What bees are left in the supers will be glad to fly out at the first opportunity, and I always raise the covers a few minutes before carrying in the supers. I find this plan a great saving of time, as I can begin taking off the supers earlier in the day, continue work later at night, and get along with less help."

Nothing is said about whether any bees are got out of the supers before they are piled up, but the probability is that in some way at least part of them are got rid of before the supers are piled up. The important kink in the affair aside from keeping the honey warm is that when the bees are imprisoned in the pile they become uneasy, and when the cover is removed they are glad to leave of their own accord.

Getting Combs Built to Bottom-Bars.

Here is a plan given by W. S. Pouder in Gleanings that will appeal to some:

"To accomplish this I cut a good comb lengthwise into strips about 7/8 inch wide, using a sharp, thin-bladed knife. I then lay a comb on its side and trim off about 1/4 inch from the bottom, and then insert one of the strips and place it in the second story of the hive during a honey-flow, and within 24 hours the work is completed. On this plan I have a stock of combs that are more beautiful than any wired combs I have ever seen."

Proportion of Comb to Extracted Honey.

A Stray Straw in Gleanings is as follows:

"I think I've heard it said that, under some conditions, as much comb as extracted honey can be produced. I don't see how that can be if the bees have no comb to build for the extracted. Say that it takes a pound of comb to contain 20 lbs. of honey, or 5 lbs. of comb for 100 lbs. of honey. If it takes 10 lbs. of honey to make one of wax it takes 50 of honey to make that 5 lbs. of wax. So 150 lbs. of honey must be gathered for 100 lbs. of comb honey. If these figures be correct, there can in no case be less than 50 percent more extracted than comb. To be sure, it may take less than 10 lbs. of honey to make a pound of wax; but even if it takes only 5 lbs. of honey for one of wax, that still makes 25 percent more of extracted than comb. Then it must not be forgotten that it takes bees to secrete the wax and to build the comb. If bees are released from this duty in the extracting-super it means a greater number of bees in the field. Don't tell me that bees won't go afield before 16 days old. I've *seen* them do it under stress when only 5 days old, and I don't believe a bee will loaf around doing nothing until 16 days old if there is no housework for her to do, and she can find work in the field."

To this it should be added that it is no unusual thing that a weak colony will do some work in extracting-combs when it would do absolutely nothing in sections.

How Bees Distinguish Color.

I have been accused of being like the fellow from Missouri, "You got to show me." I do not like to jump at conclusions, but enjoy giving a good fair test before believing it. I have sometimes been amused by a long argument as to just how certain things ought to turn out; but when you try them they just won't work. The trouble with too many theories is that the theorist does not take into consideration all the circumstances. I had the pleasure of trying an experiment the other day that gave, as I think, conclusive results. It has been claimed that bees dislike black, and will sting any thing black much quicker than any thing of a different color. I have believed this also, as I thought the bees were crosser with me when I had on black clothes. The following experiment removed all doubts in my mind.

I was out among the bees when out came a black dog belonging to one of the neighbors. In a minute, out came a brown dog from another neighbor. I was dressed in gray. Now I thought I would see which dog the bees would sting more. This seemed a little cruel, but I thought that, as long as I took my chances with the other dogs, and we all had an even break, there would be no kick coming. I called the dogs in front of a hive and began to bark at them and play with them. We all jumped and tore around in front of the entrance at a great rate. I kept a little nearer to the hive so as to see that the dogs got a fair deal. In a moment some of the bees began to lodge in the black fur of the dog, and stick there like cockle burrs. They went clear around me and the brown dog. At last one got Rex (the black dog) where the hair was short—i. e., on the nose. He withdrew to the brush to sneeze a little. I had determined to give three trials, then count up all the stings, average it up, and see just what percent madder a bee got at a black object than it did at brown or gray.

Rex subjected himself to this second test with more or less reluctance; but by dint of hard coaxing and barking I induced him to forget the past and have another romp. We kept getting nearer and nearer to a hive of doubtful repute when I called a halt long enough to give the hive a little jar. Then I jumped in front with the other dogs, and began to jump around with them. At least a dozen bees took a bee-line for Rex and got next to his feelings at the very first dash. Rex never said a word, but turned around and skeedaddled for home. He never thought to yelp. His mental capacity was occupied in the discussion of two important points—first, how he might insert space between himself and that hive; and, second, how this might be accomplished without occupying too much time. I did not know exactly what to call that test, the color line or the race problem. Rex arrived at the door a little ahead of time, and never stopped to knock, but smashed against it. It was shut, but it opened with a bang as Rex came against it. In he went, and crawled under the kitchen table. This was the second trial. The black dog had all the stings, and the brown dog and I had none. The third trial—well, that never came off. Rex positively refused to subject himself to further experiment, even in the interest of science. I do not consider him sentimental.

I thought some of continuing the experiment between the brown dog and myself, but—well, it was getting late, and we might both look black to them, and then there might have been some cranky old maids among them that were color-blind and lacked proper discrimination; and if any of them should show me any discourtesy I would have to say "stung;" so, all things taken into consideration, I concluded to be satisfied with the results as they stood.—Gleanings in Bee Culture.

More Experience with Caucasians.

Perhaps because of their reputation for great gentleness, there seems to be more than usual anxiety to know the character of Caucasians in other respects. Reports have been contradictory, and so far Caucasians are in the experimental stage. In most cases reports have not been based on large numbers, and one can hardly tell as well from a very few colonies what any particular kind of bees will do as one can from a larger number. The A. I. Root Co. have had these bees in larger number than in most other cases, and in Gleanings is given in detail a very interesting account of experience with these Caucasians in comparison with Italians, which has all the appearance of being given with great candor by a disinterested observer. It is as follows:

When we established our south yard last fall, we placed in it all of our Caucasian colonies and their crosses, as we thought it better to have them remote from our main breeding yard at Medina, where we are rearing exclusively Italians. This made in all between 35

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and 40 colonies of the dark strain. In addition to this we put in this same yard about an equal number of Italians of various strains. It was our purpose to test both Caucasians and Italians side by side to determine their relative merits as to gentleness, honey-gathering qualities, etc.

So far we have refrained from offering any opinion until we could test the Caucasians for honey, any more than to state that we found them excessive breeders of drones (see page 683)—so much so that a few colonies of Caucasians in a yard with a lot of Italians, if not restrained with drone-traps, would breed out the yellow blood in very short order.

But how about their other qualities? We have not found them to be any gentler than the average run of Italians; neither have we found them to be any crosser. They will stand some kinds of banging in cool weather that the average Italians will not. They are slightly more nervous, and at times fly up *en masse* as if they were about to sting, but after all making little more than a bluff. Colony by colony, season in and season out, with ordinary care one will receive as many stings from Caucasians as from Italians. But before we go further, we ought to state that we have in the yard two strains of Caucasians. We have never had any of the government strain of Caucasians, and therefore can not speak of those bees.

But you may ask how our Caucasians are for honey. Early in the season, and during the fore part of the flow, they ran neck and neck with our best Italians; and, what is more, the cappings of their combs were whiter than those made by the yellow bees; but this slight advantage is more than offset by their habit of daubing everything with propolis. Brand-new frames they smear all over in three months' time, and make them look as if they were four or five years old.

THEIR SWARMING PROPENSITY.

We went down to look them over yesterday, July 7, and we were chagrined to find that something over 95 percent of them had swarmed right when they were doing their very best work, while less than 5 percent of the Italians, under precisely the same management, had swarmed. To say that we were surprised and disgusted is putting it mildly.

As we have previously explained, we have been working this yard alone, except a very little help from the boys. We ran the yard for extracted honey in shallow supers. Having calls for some Caucasian queens, pure and mismated, we went down to the south yard and proceeded to fill our orders. We then looked over hive after hive of Caucasians with the above result—they swarmed. Fortunately we had drone-traps on all but two; and the virgins coming on made way with the old queens, and, of course, their colonies began to sulk. We did not, as perhaps we should have done, make an examination of the brood-nest; but we didn't know the Caucasians.

Year after year we worked hives of Italians on this same tier-up principle, for extracted honey, and we never found it necessary to go into the brood-nest. As we found the combs began to whiten we would put on supers, putting empties under the partly filled ones up to about the middle of the flow, after that reversing the order. We expected, of course, the same procedure would work for us with the Caucasians, as it always had worked for us with the Italians, and as it worked this year under precisely the same conditions. Every one of the Caucasians and their crosses, with the exception of two, had swarmed, while we were up town attending to our office work—hives full of cells, some hatched and some not, and the colonies completely demoralized. The 35 colonies of Italians, in the same yard, with two single exceptions, went on taking in honey, and with those exceptions there was not a single colony that had a single cell in it or showed any indication of swarming.

You may say you ought to have known better, and that we ought not to have depended on surface indications at the entrance, at the tops, and under the sides of the combs, with *any* strains of bees. We admit that, had we gone through the brood-nests of the Caucasian colonies, cutting out the cells and the drone-brood (and there were quantities of the latter), we might have checked the swarming to some extent. The fact remains, however, that we didn't have to do this with the Italians. No, they not only did not prepare to swarm but kept piling in the honey.

If this showing is a fair sample of Caucasians, and their swarming propensities can not readily be controlled in the production of *extracted* honey, what shall we say when we run them for the production of *comb?* If this yard had been exclusively Caucasian and its crosses, we might have laid the excessive swarming to the locality and season; but when it is understood that the 35 other colonies of Italians (except as mentioned) *in the same locality, in the same yard,* and *under precisely the same management, did not swarm, nor show any indications of it,* then we must perforce conclude that the difference was in the race.

But this is not all. The Caucasians are the worst bees we ever saw to plug in brace-combs. By this we mean spurs of wax between the *combs* and between the top-bars and not on top of them. There is occasionally a colony of Italians that will do this between the wide thick top-bars; but in our locality they are the exception, not the rule.

But even this is not all. The Caucasians stuck in brace-combs down between the frames in the very heart of the colony—so much so that it was very difficult to remove the frames. We will have some photos that will speak for themselves. While, of course, these brace-combs could be removed with the uncapping-knife, the act of drawing the combs out of the hive is very greatly impeded, to say nothing of the broken comb surfaces, and danger of killing queens and bees in the general stir-up.

"The Romance of the Reaper."

We have received a copy of a 184-page, cloth-bound book, entitled, "The Romance of the Reaper," by Herbert N. Casson, author of "The Romance of Steel," "The Great Races of America," etc. This book gives the first inside history of the growth of one of the greatest American businesses which is spread all over the world. It is a wonderful story which reads like a tale of Arabian Nights. It has 26 illustrations taken from photographs. The book is mailed for $1.00. It is published by Doubleday, Page & Co., of New York City. The book is really a history of the development of agriculture during the last 80 years, and vividly portrays the results which have been accomplished by labor-saving agricultural machinery. It also shows how a great industry has grown up in the United States, and how by concentrating plants and resources and manufacturing on a large scale, the Americans are able to make the best reaping machines at a low cost and sell them in every country of the Globe. It is intensely interesting, and as reliable as it is possible to make it. The author spent 6 months in gathering the information necessary to write this story of the invention and development of the reaper, which has resulted in making America practically the granary of the world.

Send Questions either to the office of the American Bee Journal, or to
DR. C. C. MILLER, Marengo, Ill.
Dr. Miller does *not* answer Questions by mail.

Fastening Comb Foundation.

I would like to know why, when fastening comb-foundation it dropped off. Should the honey be boiled? MICHIGAN.

ANSWER.—There is no reason why foundation should drop down, either in brood-frames or in sections, except its being insufficiently fastened. You ask if the honey should be boiled, as if you used honey in some way in fastening in the foundation. Perhaps that is your trouble. Neither honey nor anything else should be used in fastening foundation.

Japanese Clover — Arkansas as Bee-State.

1. Is Japanese clover a good honey plant? Will bees work it?

2. How is the State of Arkansas as a bee-country? WISCONSIN.

ANSWERS.—1. I think it has a good reputation, but I have had no personal experience with it.

2. It does not stand out very prominently as a bee-State, but some good work is done there.

Strong Bees Overpower Weaker Ones.

The strong bees of one of my colonies have been dragging out the younger weaker ones, seizing them bodily and alive and flying away with them. The young bees seem to make resistance, but to no avail.

Why do they do it? How can it be remedied? NEBRASKA.

ANSWER.—Probably wax-worms have worked their galleries along the surface of brood-combs, injuring the maturing brood, so that when the young bees emerge from their cells they are dragged out by their older sisters. You can help somewhat by digging out the worms. Take a wire-nail, dig into the burrow at one end, then start in at the other end, digging out the silken gallery until the worm comes out, when you can take vengeance on him.

The better way is to have strong colonies of Italian bees, and they will keep Mr. Worm at bay. Even black bees will take care of their combs if strong.

Feeding Bees.

I have 20 colonies of bees. They haven't done very well this summer and I want to feed them. What kind of sugar is best? and what proportion of water shall I use? What is the best way to feed? My neighbors have bees, and how can I feed so as not to feed their bees? ARKANSAS.

ANSWER.—Use granulated sugar, and feed any time from now till September, equal parts of sugar and water, either by weight or liquid measure. Use the Miller feeder or some other good feeder that will allow you to feed each colony without allowing other bees to get at the feed. Or, you can use the crock-and-plate plan. Take a stone crock—a gallon crock is a convenient size—fill it half full of sugar, put in about the same quantity of water, lay over the crock a thickness of some kind of rather thick cloth or 4 or 5 thicknesses of cheese-cloth, and over this lay a plate upside down. Now with one hand under, and the other over, quickly turn the whole thing upside down. Set it on top of the frames, set a hive-body over, and cover up. The bees will do the rest.

Bee-Smoke Fuel—Transferring Bees.

1. So far as using a bee-smoker is concerned, I am a novice in the business, and with poor success so far. I have tried newspaper, excelsior, and cobs broken up, but by the time I have the cover off and begin to raise the inside cover over the hive, or sections, the fire is out. What is best to use to make smoke? and how should I use the

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smoker to keep the fire from going out?

2. When is the best time, and what is the process of getting a swarm of bees out of a nail-keg and into a modern hive? IOWA.

ANSWERS.—1. Try old rags of any kind of cotton cloth. First put a little loosely in the smoker, light it and let it blaze up; put a little more on and keep blowing till it gets a good start; then fill up and it will not be likely to go out till it burns out. When the smoker is not in use it will burn better to stand upright. Hard-wood chips from the woodpile make excellent fuel also. Almost anything is better than newspapers.

2. Let the bees swarm; hive the swarm in a proper hive and set it in place of the nail-keg, the latter close beside the swarm, and in 21 days give the bees in the keg a good smoking, cut the combs out of the keg and add the bees to the swarm. Then you can melt up the old combs into wax.

Requeening—Wiring Frames.

1. I have a number of colonies which I wish to requeen in July or August. Suppose I find sume which have queen-cells preparatory to superseding the queen. Can I safely introduce a queen? If so, would it oc any better than letting the colony rear a queen?

2. I wish to wire some 7-inch extracting frames. How many wires should I use in each frame? IOWA.

ANSWERS.—1. It ought to be a little easier to introduce a queen where the bees think of superseding their old queen then where a vigorous queen is present that the bees have no notion of superseding. But I would destroy the cells.

2. Three horizontal wires will be enough.

Getting Bees to Work—Daisies.

1. I have 2 colonies, one I think are Italians and the others are little blacks. I purchased them both last spring. The Italians stored a little in the super last summer, but both Italians and blacks have gone on a strike. Both colonies sent out large swarms, one the 8th of May and the other the 15th. What is the trouble, and how will I be able to get them to work? White clover is in full bloom, and weather is favorable.

2. Part of my bees are in box-hives, and part in frame-hives. I secure more honey from the box-hives than from the frame-hives. Why is this?

3. Do wild daisies produce nectar? MISSOURI.

ANSWERS.—1. They are probably doing fair work. As they sent out "large" swarms, that left the mother colonies too weak to do much for a while, and very likely the swarms have a good deal of room to fill up in their hives before showing much work in supers. If you put in the super part of a comb they've been working on below, that may hurry them up about starting in the super.

2. There may be a difference in the strength of the colonies or a difference in the size of hives.

3. I don't know; I doubt it.

Non-swarming Secrets.

Mr. W. F. Fritze, of Minnesota, has been using a non-swarming secret for 14 years. He keeps queens, bees, and supers together, and his bees do not cast a swarm. His neighbors all corroborate his statements. I have visited him and believe what he claims. He proposes to sell it to the members of the National Bee-Keepers' Association for $1.00 a head. The money can be placed in the hands of N. E. France or the editor of the American Bee Journal. They can deposit it in a bank, and then if the bee-keepers are satisfied, he wants the money; if not, the money can be refunded. What do you think of his proposition? He is not sure whether it is the same as Davenport's. He does not know Mr. Davenport. MINNESOTA.

ANSWER.—Several times it has happened that some one has offered a secret for sale to bee-keepers, but I don't know that such offer has been accepted in any case. Whether it would be in this case I can not say.

Superseding Queens.

I have several very poor queens and one extra-good one, and I want to supersede the poor ones with queens reared from my best one. I have the 10-frame sectional hives. How would this plan work?

Cage the queen in No. 4—the best queen—until the bees start queen-cells. Then place the second-story, which would contain most of the queen-cells above an excluder, putting a story of empty combs in its place, and releasing the queen below the excluder. Would the bees in a strong colony go ahead and finish the cells. Then when the queens were nearly ready to come out of the cells, place a cell in the lower story of the hives containing the queen I want to supersede, placing an excluder above, and, of course, putting the old queen above the excluder, and when the new queen was mated and had commenced to lay, remove the old queen and the excluder.

There is honey from alfalfa coming in nearly all summer. Last year the bees stored honey in the supers up to October 23. Consequently the bees are always in a good humor. And I think the plan would work here if it would work anywhere. IDAHO.

ANSWER.—You can easily tell by trying; but I'm afraid your plan will not work out to your satisfaction. When a queen is caged, the bees are not so prompt to start cells, nor will they start so many, as when the queen is removed. Neither does it always work to have a young queen separated from an old one by an excluder; although it may work better for you than it has done for me.

Straight Brood-Comb Without a Frame.

A few weeks ago one of my colonies swarmed, and at the time I was too busy to give the swarm proper attention. It alighted on the limb of a cherry-tree just out of reach. I placed an empty hive containing 4 brood-combs just under this swarm and shook the bees off the limb. Some of them clung to the limb, so I put the cover on the hive and left it there until the next night, when they had all gone in. I carried the hive to the apiary and set it beside the others, but did not put in the other 4 brood-frames then, and had so much to do that I forgot to put them in at all. Last Saturday I removed the cover from the hive and found that the bees had built comb in which they had reared brood and stored honey. There were 4 different combs, and one of them could not have been any more even if the bees had had a frame of brood-foundation on which to work, and it was almost full of brood. Is not this something unusual, i. e., such a straight comb under the circumstances?

I am sending you sample of the brood-comb. The dark spots in some portions of it make me think that possibly it is not just as it should be. Is there anything the matter with it? CHICAGO.

ANSWER.—No, it would have been unusual if the bees had not built a straight comb parallel to the old comb. They would do so for the sake of having the proper spacing between the two combs.

Sample of comb has not come to hand several days after your letter. Probably Uncle Sam has been careless with it. But I'm not an expert in bee-diseases, and suspected samples better be sent to General Manager N. E. France, Platteville, Wis.

Italian Differences—Bee-Way Sections.

1. What is the real difference between the leather-colored 3-banded Italians and the 5-banded golden Italians? I have worked with each and can hardly distinguish one from another. I have Moore's strain of 3-banded, and a very good strain of goldens, and sometimes can not distinguish by looking at them.

2. Is not the first cross between Italians and blacks better than either pure strain?

3. Why is it that Carniolans are not kept so much as other kinds of bees? Are they cross?

4. Is there any preference in the market for either 4¼ x 4¼ plain or bee-way sections?

5. What is the best way to unite a swarm direct from the tree with a weak colony? I have just shaken in front of the hive, but many are at first killed at the entrance of the hive. OHIO.

ANSWERS.—1. There ought to be just the difference indicated by the names, 2 more bands on the 5-banded than on the 3-banded.

2. Very often; but you can not rely on great constancy.

3. I suppose the majority of bee-keepers think they can get better work from the Italians. One objection that has been made to the Carniolans is that while one can easily tell Italian blood by the yellow bands, the difference between Carniolans and blacks is not so plain, and a little black blood in Carniolans is hard to detect.

4. It has been claimed that more could be obtained for the plain; but that is certainly not true in all markets, and it is possible that in some markets where the plain has had the preference on account of novelty, there may be no preference.

5. Perhaps if you had shaken the bees off the combs at the entrance, so that the two lots of bees would run in together, there would have been less trouble. If one lot has an old queen and the other a virgin, they do not unite so well.

A Beginner's Questions.

1. After transferring a colony from an old hive to a new one and introducing a different queen, how can I tell whether they accept her or not?

2. By giving them full sheets of foundation in brood-frames, how soon can I put on supers with full sheet foundation in sections?

3. When you are changing the strain of bees, is it necessary to save any of the drones of the old race and put them in the swarm with the new queen?

4. What is meant by the bees "balling a queen" in introducing?

5. How many times does a queen mate?

6. What is meant by fertile queen?

I am just starting to handle bees. NEBRASKA.

ANSWERS.—1. Look a few days later and see whether eggs are present.

2. Sections may be put on in 2 or 3 days, or as soon as the queen has made a start at laying in brood-frames.

3. No.

4. Very much what the word indicates; hostile bees will grab hold of the queen at different parts until there are bees all about her, then other bees will seize those that have hold of the queen, until there is a ball of them as large as a hickory-nut or larger.

5. Once for life; but some cases have been reported in which a queen mated the second time. She may, however, make several flights before mating.

6. A queen that has met a drone. A normal laying queen is a fertile queen.

Queenless Colony and Pollen—Nucleus Queen.

1. Will a colony of bees that is queenless carry in pollen?

2. Is there any way to tell if they are queenless without opening the hive?

3. If in transferring a nucleus to a hive one should accidentally drop the frame containing the queen, and she should fly away, would she return to the hive, or be lost? MAINE.

ANSWERS.—1. Yes, you will find an extra amount of pollen in a queenless colony, because more is carried in than used; but gradually they carry in less and less, and the loads are smaller.

2. No certain way that I know of.

3. She would be likely to return to the location she had marked at her last flight.

Queenless Swarm.

On May 5, I dequeened a colony as they almost invariably refused to build queen-cells for me, and as orders began coming in faster than I could fill, I dequeened this colony with some others. This one then built cells and everything went well. I removed all grafted cells to the nursery cages, and gave them a new lot of cells, which they accepted. These were capped, and on the 21st, just 16 days after dequeening, they swarmed, and having my hives numbered and a record of each, I was puzzled, thinking a virgin had got in wrong. I moved the old hive to a new stand, placed a new one there and hived the so-called swarm, placing a zinc entrance-guard over the entrance. Then I placed a sealed queen-cell in the hive, left it alone for about 5 days, when on examination I found the queen-cell all right, and no sign of a queen, nor did I see one on hiving them. The virgin is out now, but not laying yet.

Now can you tell me what made them swarm? The swarm and old colony have each a queen now, and are doing nicely.

None of my neighboring bee-keepers ever heard of a queenless swarm from a queenless colony.

I have taken this method before and never had one even want to swarm when fed heavily and crowded for room. PENNSYLVANIA.

ANSWER.—It is possible there may have been a virgin in the case, and that while out

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with the swarm she was lost. It is not an uncommon thing for virgins to be lost on their wedding-trip; and birds are often blamed for this.

Trying to Prevent Swarming.

1. I have a colony of bees which I have been trying to keep from swarming, but they cast a fine swarm on June 10. I then waited 7 days, and opened the hive and cut out 20 queen-cells—14 of them capped over and 6 ready to cap in a few days, and I left one ready to hatch for their own queen. Is this an unusual number of queen-cells, or is it because the bees have not enough room? They are in a 10-frame Langstroth hive, with 3 supers for section honey, holding 28 sections each. I have removed 45 pounds of white clover honey from the hive at this date, and another super will be ready to be taken off in a few days, and will be replaced with another empty one.

2. Are my hives large enough, as I run simply for comb honey?

3. Will an unusual amount of clover blossom have a tendency to increase swarming?

4. I had a swarm of bees from a box-hive colony, April 26, which I put in a 10-frame hive, Langstroth size, and when they had the combs drawn out in the brood-chamber, I put on a super of 28 sections, which were drawn out ready for honey, when they sent out a very large swarm, June 20, one day later than the first colony mentioned. On opening the hive I found 11 queen-cells just a few days old, which I cut, and they have showed no further signs of swarming, are working very nicely, and have also a good number of bees. Did they simply catch the swarming fever from the other colony?

NEW JERSEY.

ANSWERS.—1. You will often find as many queen-cells or more.

2. Yes.

3. I don't know. I never knew a more bountiful crop of white clover in my locality than this year, and I never knew swarming worse. And yet in some localities they say that when a heavy flow is on, bees give up the idea of swarming and devote their whole energies to harvesting the crop; and some indications of the same thing have not been lacking here.

4. No, for the cells were started several days before the other colony swarmed.

Winter Loss of Bees.

Last November I prepared 10 colonies of bees as follows: Boxes were made of matched lumber 7/8-inch thick, length inside 28 inches, width 26¼ inches, with tight floors, and so constructed that when the hive was placed inside, the hive was entirely shut in, bottom-board, cover, and all, except an opening 3/8 x 8 inches, for the bees to pass in and out. With the hive inside, I had a space at the front between the hive and outer box of 1¼ inches, which was filled with old grain sacks. On the sides between the hive and the outer box a space of 5/8 inches, and on the rear end a space of 6¾ inches was packed with straw placed above the cover. A tar-paper roof covered all.

An examination on March 26 showed 6 colonies dead. Of the remaining 4 colonies, one had 7 frames, 2 had 6 frames, and one had 5 frames covered with bees.

Some of the combs were mouldy in all the hives, and the straw packing on the outside of the hives and on top was damp and mouldy next to the hives.

Plenty of honey was found in the hives. The entrance to one hive was found somewhat clogged with bees, but the others were open. Some of the dead colonies were among the strongest in bees when packed for the winter. The hives stood on a side hill sloping toward the east, and on the east side of a building. They stood facing the east among tall oak trees, and about 15 feet in front of the entrances was an open field. The entrances to the hives were about 15 inches from the ground.

Can you give me any light as to what caused the loss, or have you any criticism or suggestions? PENNSYLVANIA.

ANSWER.—Reports differ as to results when bees are packed similarly to yours, perhaps on account of difference in winters, and perhaps on account of difference in locations. Some say that such thorough packing prevents the sun warming up the hives enough to start the bees to flying when a warm day comes, whereas with only a single wall the heat will penetrate and warm up the bees in a short time. Possibly you would do better to leave the entire front of the hive open, and if facing more or less to the south the heat of the sun would do its work better. Sometimes it is thought the bees are kept too warm, strong colonies suffering the worst, as it was with some of yours.

Carniolans vs. Caucasians — Heartsease.

1. I have 3 colonies of bees (common brown), and would like to increase. Would you recommend Carniolan queens for rapid and cheap increase, or would Caucasians be better?

2. Do Carniolans defend their hives against robbers as well as Italians?

3. Please describe heartsease.

4. From what do bees make comb?

ARKANSAS.

ANSWERS.—1. Not sure, but if you mean which of the 2 are most given to increase by swarming, probably Carniolan.

2. Likely they do.

3. I am not good at describing such things.

HEARTSEASE.

If you have any smartweed in your locality, you will find the two look almost exactly alike. Come to think of it, there's a picture of heartsease in "Forty Years Among the Bees," page 171, and perhaps the editor will print it here for your benefit.

4. From what they eat, honey and pollen, much as a cow makes milk from what she eats.

Starting in Bee-Keeping.

Five years ago I purchased a colony of bees and set out over a rough road to bee-keeping. That year I learned to like bees in spite of their stings. The next year I had increased to 3 colonies, and the flow of sweet clover being good I sold some $30 worth or more, and supplied the family with honey. In the winter of 1905-06, I bought 20 colonies of bees and increased my old stock some, thinking the next year would be good. But the pasture near here was overstocked, there being about 200 or more colonies, and the flows of 1906 and 1907 were so small that I was compelled to sell the greater part of my bees to pay my debts. During my success and failures I worked for Mr. J. M. Cutts, an experienced and active bee-keeper, and paid careful attention to the different duties. I am a reader of the American Bee Journal and Gleanings, in both of which I find much valuable advice. I believe if the failure of 1906 and 1907 had been postponed by the One that controls these things, I would have been an active man in bee-keeping. I have at least learned that a man is at the mercy of the season, not to try to increase too fast, and to use judgment at all times.

1. Do you think that I am capable of venturing out in my own canoe safely?

2. Which is the best in the long run, to buy or rent land in a suitable locality for bees?

3. How many colonies would you advise me to start with?

4. What size hives and what kind of sections would you use?

5. Is it necessary to locate apiaries near creeks, swamps, and rivers?

6. What is your opinion of the best honey-gatherers? I have seen several kinds, and the Italians seem the best.

7. Is natural shade preferable?

ALABAMA

ANSWERS. 1. Others with no more experience than you, have paddled their canoes all right, why not you?

2. If you can as well do so, it is better to own than to rent. Then you can make any improvements you like without fear that you will be thrown out of possession.

3. Difficult to say. Perhaps 25 to 50, and have your time at first partly occupied with something else that will make your living sure. Then you can grow into the business.

4. Unless you give the closest attention to your bees, better have 10-frame hives. But if you keep such close watch that you will never allow the bees to suffer for want of stores, 8-frame hives may be better for section honey. Two-bee-way sections, 4¼ x 4¼ x 1⅞ are about as popular as any.

5. No; locate where is the best bee-pasturage.

6. About as safe to tie to Italians as any.

7. Probably no difference; only natural shade generally costs less.

Cutting Out Queen-Cells—Uncapped Sections—Salt to Kill Weeds—T-Supers.

1. When you have 2 or 3 supers on a hive and desire to cut out queen-cells what do you do with the supers during the operation?

2. How many colonies of bees have you at present count?

3. How many colonies can be put on a space 20 x 50 feet?

4. Is there any danger of uncapped sections in double-deck supers?

5. I understand you use salt to kill weeds in front of the hives? Do you always have success with it? I have used the plan 2 or 3 years with perfect success.

6. What is the best way to find and catch the queen in a box-hive?

7. I do not understand the T-super. Has it section-holders for supporting the sections?

8. I have a colony which when it had filled the first super about 2-3 full I placed the second one under it. In a few days they deserted the first super and went to the second. What is the trouble? Will they go back and finish the first? They are in a 10-frame hive.

9. How much thin super foundation will be required to put one-inch starters in 250 4¼ x 4¼ bee-way top and bottom sections?

MISSOURI.

ANSWERS.—1. Generally set them on top of the nearest hive, standing them on end. Sometimes set the first one on the ground, leaning against the hive from which it was taken, then set the others one after another on the ground, each one leaning against its predecessor. This supposes that robbers are not troublesome. If at a time when robbers are troublesome, a thing which doesn't often happen when supers are on and queen-cells are to be removed, the supers are piled on an empty hive and a robber-cloth thrown over them.

2. I have 181 hives with bees in, part of them nuclei, and only 130 strong colonies storing in sections.

4. Not altogether sure what you mean. If you mean danger that bees will not ean sections when supers are tiered up on a hive, I may say that my sections are well capped when 4 to 6 supers are on a hive.

5. I think salt never fails to kill the grass.

6. Drum the bees out, put them in a movable-frame hive with a frame of brood in it, give the bees time to settle, and then look on the frame of brood for the queen. Or, you may sift out the queen with an excluder.

7. No; it is much simpler than that. It's called a T-super because T-tins are used in it to support the sections. A cross-section of a T-tin is like an inverted T, in which shape you will see it is hard to get more strength with so little room taken. There are 3 of these T-tins for each super, each one 12 inches long to rest inside a super 12⅝ wide inside. The super itself is a plain box without top or bottom, ¼ inch deeper than the height of a section, or a little deeper to allow for shrinkage with age, a strip of tin on the bottom at each end to support the

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sections, and a support for each end of each T-tin. This support may be a square of sheet-iron fastened with 2 nails, as most of my supers are, but the latest is to have a bent staple for a support. The T-tins are loose, merely resting on their supports. Some nail the T-tins to the super, but it doesn't seem to me this is so convenient when you come to take sections out of the super, for I can turn my supers upside down and dump out the whole thing—T-tins and all.

8. It is a very rare thing for bees to desert a partly filled super and work on an empty one under it. Indeed, I'm not sure that ever such a thing happened with me in all my experience, although I have known cases in which the bees continued to work in the super above without making any beginning on the empty super under it. I can only make a guess as to why the bees acted so in your case, and my guess would be this: When you gave the second super under the first, the bees were storing well, and promptly began work on the under super. Then the bees swarmed, or else there was a let-up in the harvest, and there was no more than the bees could do in one super, and being at work on both supers they continued on the one nearest the brood-nest.

9. A pound of thin super foundation will fill about 100 4¼ sections full. If an inch starter be put in each section, it would fill 400. At that rate 250 sections would take 10 ounces.

Reports and Experiences

Bees Doing Well.

I have 112 colonies of bees, and they are doing very well now. They were quite backward on account of having so much rain.

Ottosen, Iowa, July 12. J. W. SADLER.

Just Beginning to Store.

Bees have not done much as yet. They have just commenced to store in supers. It has been too wet.

Sutherland, Iowa, July 4. J. W. BREWER.

Still the Good Work Goes On.

I had 12 colonies last spring, and 18 now. I have taken 18 full supers, 4 each from 2, and the good work moves on.

Garwin, Iowa, July 13. T. S. HURLEY.

Better Flow Than Expected.

We have had a better honey-flow here than we expected. There was a good flow from the second bloom of catclaw, which is very unusual. Prospects are good for a flow from fall flowers. Honey is moving slowly.

Sabinal, Tex., July 19. GRANT ANDERSON.

Good Honey Crop Expected.

Bees are doing fine considering the weather. Rain and cold hold them back. Swarming is the order now, and the weather is fine. The fields are white with white clover, so we look for a good honey harvest if we get suitable weather.

Vermont, Ill., June 14. S. F. HAMER.

Prospects for Good Crop.

The honey season is here and the prospects are for a good crop. I have 17 colonies and the swarming season is over. They swarmed early this year. I am having success with decoy hives.

Alden, Iowa, July 8. FRED PETERSON.

A Room Bee-Escape.

I have kept bees for 18 years on the experimenting plan. I have made one thing that I am proud of and that's a bee-escape. I can put all the supers from 27 swarms in my bee-room at 10 o'clock in the morning, and by 3 or 4 in the afternoon they are clear of bees, except those that may have some brood sections. It beats anything I have ever tried in bee-escapes. If I thought there would be a demand for such an escape, I would try to have some made by machine, as to make them by hand is too expensive. I think they could be made so that I could sell them for $3.00 or $4.00.

Fulton Co., N. Y., July 3. L. A. OERTEL.

"Mary" Was a Bee-Keeper.

Mary had a swarm of bees,
And they, to save their lives,
Must go wherever Mary went—
'Cause Mary had the "hives."

—Selected.

Good Season for Bees.

Bees are doing well in this part of New Brunswick this year. I have kept bees over 40 years and this season seems to be as good a year as I have had for a long time. I have 60 good colonies and they are about through swarming now.

Meadows, N. B., July 7. GEO. F. BEACH.

Fine Honey Crop.

Bees are working freely and we have a very fine honey crop. I have 56 colonies and about 100 pounds of honey already, and very fine white clover. We have rain now, and expect a good fall crop, too, if the weather is good. Basswood is coming in a few days, which yields well in this locality.

LaMotte, Iowa, July 3. NICK JENTGEN.

Very Good Season.

We are having a very good season, favorable for white clover and basswood, and the outlook is fair for a generous crop of honey.

The past spring my bees dwindled to 16 colonies. I increased artificially (transferred 3 frames of brood and clinging bees to each new hive) 14 new colonies, making 30 in all. Last week I had supers on 25 of them, and this week I extracted 400 pounds of fine white honey.

Chazy, N. Y., July 15. (Miss) F. E. WHEELER.

Honey Too Thick to Extract.

Our last season's honey harvest was a failure owing to the honey being so thick that we could not extract it with a Root extractor. We tried fast speed and slow, but no use, it only partly came out. I never had anything like it before. I left it in the hives for it was very dark and not fit for comb honey. The whole district was the same. Some bee-keepers got a little, but very dark honey.

Gisborne, New Zealand, May 30. EZRA SMITH.

Dry Weather—Poor Crop—Increased Interest in Bees.

The prospect for a large honey crop was the best we have had for years in the first part of the season, but as the season advanced the show of a honey crop grew less. On June 29 white clover was out of bloom, on account of dry weather, and I got only 700 pounds of honey, when I was expecting 3,000 at least.

This season was different from any that I can remember. When clover first began to bloom it turned cold, and continued for 10 days, and the bees were in a starving condition when it was over, and trying to rob. I have had very little swarming this year.

It seems that a larger number of people are becoming interested in bees.

Epworth, Ky., July 13. W. A. SWEARINGIN.

White Mulberry as Bee-Forage.

I have waited until now to report again on the white mulberry as a forage for bees, and its value as a means to insure a reasonable honey crop every year, whether in a dry summer, cold weather, or excessive rains. I have been feeding my colony every day the last few weeks, since the berries began to mature (June 17), and I believe it would open the eyes and penetrate the understanding of some bee-keepers if they could see them literally swarm over the crushed berries I put upon the alighting-board for their delectation, leaving only the tiny seeds in evidence.

I have been urging bee-keepers to avail themselves of this really grand tree, so hardy, so attractive, and otherwise useful, but the greater majority of keepers have been of poor vision and exceedingly deaf. They have seemed to suspect that I had a great, big broad-ax to grind, and so have given my suggestion little recognition. If I were not somewhat versed in the intricacies of human nature I should feel astounded at such apathy. But not any more. I only regret that I may "pass on" without leaving so important a fact of more practical benefit to my fellow bee-keepers than now appears.

But some persistent observer will arise who will also see it his duty to acclaim the virtues of the white mulberry, which it rightly merits. In this sense history will again repeat itself.

This year I have been able to settle a question I could not do when previously writing on this subject—whether the white mulberry came true to seed or not. I am glad now to say that it does. How do I know? Because trees from seeds planted 5 years ago have this year borne identical fruit. This is an important fact, indeed, to such as desire to start a small nursery, to secure stock for more extensive planting.

But the essential point in their cultivation is to keep all branches trimmed off the trunk until the tree has reached a height of at least 6 or 7 feet, then let it branch out. This is the secret of unfailing success. If you don't do this you will have a stunted, straggling, unsightly tree, retarded in fruitage, and of very small and inferior variety. It is very safe to assert that you can depend upon some berries the fifth year after planting—earlier in warmer sections—after that more and more.

Chicago, Ill., July 15. DR. PEIRO.

Fairly Good Season—Moth Remedy.

This has been a fairly good season for bees and honey.

There was a little remedy prescribed in the American Bee Journal something over one year ago that beats anything I ever tried for killing moth worms and eggs. As I saved lots of empty combs from the ravages of moths by the use of the drug, thought I would ask for a second insertion in the columns of your valuable paper. It is called "Chlorate Disulphide." It is a fluid and comes in pound-cans, and can be had at any drugstore at from 25 to 35 cents per can. Directions for use are as follows:

For one set of brood-combs where bees have died, 2 tablespoonfuls of the fluid in a little butter-chip slipped in at the entrance, or set on top of the frames. Put an oil-cloth over the top of the frames and close the entrance of the hive with damp earth.

All honey, whether sections or brood-combs, should be exposed to the fumes, especially if wished for any long future use.

Cameron, Mo., July 19. KARL J. LOHMANN.

[Mr. Lohmann probably means "bisulphide of carbon."—EDITOR.]

Introducing Queens, Etc.

After reading of the many ways of introducing queens, I have a plan that I have used successfully in two cases. The plan I speak of I have never seen in print, and it may not work every time. It is as follows:

Hive No. 1, blacks, I do not want. No. 2 and No. 3 are fine stock, but not overly strong. I want to get rid of No. 1. It is very strong, so I go to No. 2, find the queen, set the frame she is on aside, and take a small box 4 x 6 x 4 inches, with a wire cloth top. I get about a half-pint of bees in it from No. 1, put queen No. 2 in it, then set it aside while I look for queen No. 1. As I take out a frame I shake in front of the hive with queen-guard on until I find the queen No. 1. I kill her, smoke the bees in the box, then dump them with the bees in front of the hive, smoke a little, and the trick is done. The queen was not killed. I looked at her the next day and the bees and queen more contented, it seemed. Then I took No. 2, which had some crooked combs as well as No. 3. I put the crooked combs in top and all straight ones from both hives below, smoked both hives a little, and there was but very little fighting.

The other was a little different, as the bees came from a tree that was cut, and the bees left. I took a box and went for them late Sunday evening, but could not get them in, so went back Monday morning, and when I got home and transferred them I found they did not have any queen, so I gave them a frame of brood. Then I decided to give them a queen also. So I went to the hive, got a queen, put her on the front of the hive, smoked the bees out of the hive, and shook the frame in front, and kept them out with the queen a while, and she was accepted all

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right. The tree was cut Saturday night. I gave the queen Monday about 10:30.

If any one has not the nerve to risk a queen or is afraid of losing her, I would not advise him to try it unless he keeps the bees out in front of the hive a good while, and watches her pretty closely. But queens are easy to rear, even for an amateur like me. I have been keeping bees only one year this June. I began with one colony last June. I now have 9. I have doubled up several and prevented swarming to a great extent, because I did not want too many colonies. I have not room. I will try to winter about 15 colonies, then double up in the spring to get the fruit-bloom. I do not have any white clover. After fruit comes potato, that lasts about 2 to 3 weeks. Then there is honey coming in slowly until smartweed. I have a ready sale for all my honey. I could sell more. I get 15 cents for it at home. I do not have to take it down to the merchant and get the worth of it in trade.

Kuttawa, Ky., July 20. L. S. Dickson.

Troublesome Swarm—Good Honey-Flow.

June 16 a swarm issued from a colony on which I had a queen-trap. The hive was moved to one side and an empty one put in its place, and the trap with the queen put on. The swarm returned. I saw the queen run in, but left the trap on the hive. The next day they came out again. After they returned I examined the trap and saw the queen with about 18 bees on it around her. I puffed in a little smoke and she ran down into the hive. I went to the parent hive and took out a frame of brood and bees and gave it to them. That did no good, for the next morning, June 18, they swarmed out again before 8 o'clock, but returned. I again smoked the queen down out of the trap and took it off about noon. Out they came again and clustered. We hived them in a new location and about half of them stayed, the rest going back to the old hive. On June 20 a swarm issued from another hive. I put them in with this troublesome one. They united all right. No fighting. To-day I examined them, found the brood-combs drawn about one-half down, but no evidence of a queen—no eggs nor brood.

There has been a good honey-flow in this section. J. T. Hillery.

Columbus, Ohio, July 7.

New Interest in Bee-Culture.

There is new interest in bee-culture here now. Many of the farmers are getting improved hives, giving better care, and receiving good pay for the care given. I think this is a good location. I have some of the same strain of bees that have been on this place for 40 years. How they ever managed to withstand the moths, in old box-hives, and with absolutely no care until 3 years ago, is surprising. I don't believe they were fed once during that time. This proves that there has not been a year in 40 but that they gathered enough honey to live on.

We have 2 honey-flows per year, that from white clover from about April 15 to July, and the fall flow from September 1 until frost. The fall honey is very fine and thick. It is from stickweed, heartsease, steelweed, goldenrod, and marigold. It is a bright golden amber color. The yield is about 60 pounds per colony.

My first swarm came out April 8. All my neighbors complain that their swarms all absconded this year.

There was the largest crop of white clover this year I ever saw, but it seemed to yield very little honey. A portion of the time the bees were not working on it to any extent.

I think I have found two good things, and will pass them around. One is a hive-stand made as follows: Set 4 3-inch drain-tile on end, letting them in the ground about 4 inches. These tile cost us one cent each.

To stop robbing: place carbolized cloths about the hive. They need not be very large. A small piece near the entrance, also near any crack where robbers are trying to enter, will send them away.

We like the American Bee Journal very much. Charles M. Smith.

Rogersville, Tenn., July 7.

Unfavorable Year for Bees—Swarming.

This has been an unfavorable year for beemen. The clover season is over and not a drop of honey in the supers. This is one of the most unfavorable years for the bee-business I have experienced in 20 years. In past years I have gotten a few hundred pounds every season anyway, but this year not a pound so far. In the spring conditions looked very favorable, as the pastures were covered with white clover—but no nectar. I put the supers on the first of May, and by the 15th of the month the working bees commenced to kill the drones, and about the last of June the killing of drones started a second time. Since then I haven't seen a single drone in the bee-yard. Last year I was provoked at the amount of noise of the drones, but next year I will certainly appreciate their music. (No drones—no honey.)

If the bees should commence to work in the supers the honey will not amount to very much, as the foundation is more or less injured. I will have to use the same sections next year, as I can not afford to discard them for new ones, as 53 supers each containing 56 sections, which in all is 2968 sections, are too many to throw away. Perhaps I will make a mistake in doing so, but I will give it a trial.

It isn't the bees' fault that they do not get any honey, as they work both early and late, and there are no idlers among them. I do not know if they have swarmed any this year, as I have not watched them very closely, as this year's condition has lessened my interest in them somewhat, as I won't make anything from the bees this year. I'll be satisfied if they gather enough honey to live on till next spring. It would be a great deal worse if I would have to feed them through the winter.

I notice that there are many inquiries as to whether the queen comes out first or last with the swarm. When the proper time comes the queen comes out on the entrance, usually in the forenoon, to see if the weather is suitable for swarming, making a few circles around and entering the hive again, then all the bees on the outside as well as on the inside turn their heads in the direction of the queen, showing that they are well aware that she is about ready to start, and then she gives two or three shrill notes ("peep-peep"), and starts for the entrance, when all the bees of her swarm are in an instant ready and coming as though life depended upon it. The bees that were on the outside of the hive are the first to leave, and then the queen; then the whole swarm follows as fast as they can get out. The queen is very quick in her actions; therefore, when all is ready and she has given the command to start, she is off in an instant, and flies straight up into the air about 20 feet, in company with those that were on the outside of the hive, circling around till the whole swarm is in a body, when they all follow the guides that have been looking around before swarming-day for a suitable place for a home.

Monett, Mo., July 23. A. G. Erickson.

"The Honey-Money Stories."

This is a 64-page-and-cover booklet, 5¾x8½ inches in size, printed on enameled paper. The cover has a picture of a section of comb honey, 3½ inches square, the comb being in gold-bronze, which gives it a very attractive appearance. Then on the gold-bronze comb are printed these words: "From Honey to Health, and from Health to Money."

It contains a variety of short, bright stories interspersed with facts and interesting items about honey and its use. The manufactured comb honey misrepresentation is contradicted in two items, each occupying a full page, but in different parts of the booklet. It has in all 31 halftone illustrations, nearly all of them being of apiaries or apiarian scenes. It also contains 3 bee-songs, namely, "The Hum of the Bees in the Apple-Tree Bloom," "Buckwheat Cakes and Honey," and "The Bee-Keeper's Lullaby." The songs alone ought to be worth more than the price of the booklet.

It should be placed in the hands of everybody not familiar with the food-value of honey, for its main object is to interest people in honey as a daily table article. The stories and items are all so short and helpful, and the pictures so beautiful, that it likely will be kept by any one who is so fortunate as to get a copy of it. Its postpaid price is only 25 cents, but the health-value of its contents would run up into dollars.

We believe it would be a great help to create a more general demand for honey. Its retail price is 25 cents, but we will mail a single copy *as a sample* for only 10 cents; 5 copies for 75 cents; or 10 copies for $1.25. With the American Bee Journal one year—both for 60 cents. Send all orders to George W. York & Co., 118 W. Jackson, Chicago, Ill.

Buckwheat and Honey.

Behold! a field of vivid green,
All powdered thick with snow,
And yielding tributes of perfume
To all the winds that blow,
While every flower of purest white
That trembles in the breeze
Is bending with the golden weight
Of busy honey-bees.

For while the buckwheat grows apace
In summer sun and showers
To furnish forth the breakfast dish
We prize in wintry hours,
The bees are working overtime
To garner for our sakes
The honey—Oh! delicious thought—
To eat upon the cakes.

—Minnie Irving.

Books for Bee-Keepers

Every bee-keeper should have a bee-book besides a bee-paper. On another page will be found all the best books offered—either at a price, postpaid, or as a premium. If you can not earn them as premiums for getting new subscriptions, it will pay you well to purchase one or more of them. You will find them of great value. There are so many things in the books that are needful to know, and that of course could not be told over and over again in the bee-papers. If a bee-keeper can afford only one, it would better be the book rather than the paper. But now that the American Bee Journal is only 50 cents a year, of course, no bee-keeper, however limited his apiary may be, can afford to be without its monthly visits.

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American Bee Journal

Caution in the Heating of Extracting-Combs

There is much to commend the plan of waiting till the close of the season to extract, then heating the honey in a closed room till it is as warm and limpid as when taken fresh from the hive on a hot day. But there is a danger that one might not suspect in advance:—the danger of heating the combs in the upper part of the room to such an extent that they may drop out of the frames. It seems that time is an important factor in the operation, plenty of time being needed to warm a solid comb entirely through without raising the heat to such a point as to melt the comb. Allen Latham has rendered bee-keepers a service by relating his own mishap, in the Bee-Keepers' Review, as follows:

"Your scheme of extracting honey, when convenient, by heating it artificially, is good; of course it is, but there is danger. It might be well for you to call the attention of your readers to the danger of overheating. If the heat is allowed to run too high there may be serious loss.

"Last fall I had a lot of combs of dark honey, more than I would need for spring feeding, and I thought I would extract a few hundred pounds. I had the honey stacked in an old hen-house, paroid covered. I started the lamp on Friday morning and ran it slowly that day. Through Friday night I ran it faster for the night was cold, the time being late in November. Saturday morning the honey was almost fit for extraction and I thought it well to hurry the heat a little and get to extracting about noon. The place did not feel warm and so I set both burners to going and left them, as I went to the city on some errands. I was gone longer than I thought, and the sun came out rather warm in the meantime. Upon my return I opened the henhouse door upon a sad sight. All the top supers had melted down and the honey was drizzling all over the supers in the place. I had some sixty combs melt down and lost one hundred to two hundred pounds of honey all told. It was an awful mess, and don't you forget it.

"I shall be careful hereafter. I should have known better; but I had underestimated the heating capacity of my heater, especially when it was coupled with sunshine. I had over-estimated the heat-absorption power of the honey and contents of the house. Even as it was, the lower tiers had not become near warm enough to extract.

"Heating honey is something like melting up wax—it is well to keep on the spot."

Becoming Immune to Stings

There are persons so seriously affected by bee-stings that it is a serious question whether they should make any attempt to keep bees. One of this class, L. R. Penfield, applied to Dr. Miller for advice, and received the following reply in Gleanings:

"Hard to advise. If for the money alone, don't think of touching bees. If you like them so much that it's hard to let them alone, try it in conditions that will allow you to give them up any day with little loss. Avoid many stings at first by means of veil, gloves, and gentle bees, and it may be that, after a few stings, the effect will become less. If not, quit."

More to the point is a foot-note by Editor Root, as follows:

Mr. Penfield can overcome his difficulty easily if he will submit to a process of immunizing, such as we explained some time ago. Let him take a bee up by the wings, or get some one to do it for him; cause the bee barely to prick the skin of the hand or arm with its sting, then instantly brush it off. This should be done very quickly, so as not to get much of the poison into the wound. If no serious effect follows it may be repeated in about a week's time. After a month or two the dose may be repeated a little oftener, say once in three days; but in each case care should be taken to get the smallest quantity of the poison through the skin. If this be repeated at intervals for a period of six months, the system will become gradually immunized to the effects of the poison, just as it does to other poisons; and in the same way increasing doses may be taken, and oftener. We had one case exactly similar to that of Mr. Penfield, in which the party can now go among the bees, and can be stung ten or a dozen times without any bad effects.

"One thing Mr. Penfield can not do; and that is, to take the whole of the effects of a sting. If it be left in the wound, and the entire contents of the poison-bag are injected into the flesh he will, of course, experience just the effects described; but if he presses the bee just hard enough against the flesh so that it barely pricks the skin, and no more, and *immediately* brushes it off, being sure not to press the poison-sac, the effect will not be serious; in fact, he may not notice it at all"

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Bee-Keepers' Supply Manfactory for sale. One chance in a lifetime. I wish to retire and will sell my machinery and trade at half price. My machinery will make nice sections, and at a much less expense than any other manufactory in the world, as these machines will cut twice as fast as any other. I have a trade in most of the States. Am located in a lumber State. Write at once and find out about it if you want the opportunity. Also will sell 100 colonies of bees at half-price. This is business.

W. H. NORTON, Skowhegan, Maine

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Has the latest report of all the best work in practical entomology. Articles upon apiculture by national authorities appear in it. If you wish the best entomological journal for the practical man, subscribe for it. $2 a year.

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35 colonies of Italian bees in 10-frame Langstroth hives. Bees are healthy and everything is in good order. Price and special description upon application. Write at once. You can have them cheap.

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Cut on left is our famous and Popular Red Gem Ink Pencil, a complete leak proof triumph, may be carried in any position in pocket or shopping bag, writes at any angle at first touch. Platinum (spring) feed, Iridium point, polished vulcanized rubber case, terra cotta finish. Retail everywhere for $2.50. Agents wanted. Write for terms. Write now "lest you forget." Address

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We have gotten up 4 Souvenir Postal Cards of interest to bee-keepers. No. 1 is a Teddy Bear card, with a stanza of rhyme, a straw bee-hive, a jar and section of honey, etc. It is quite sentimental. No. 2 has the words and music of the song, "The Bee-Keeper's Lullaby;" No. 3, the words and music of "Buckwheat Cakes and Honey;" and No. 4, the words and music of "The Humming of the Bees." We send these cards, postpaid, as follows: 4 cards for 10 cents, 10 cards for 20 cents; or 6 cards with the American Bee Journal one year for 50 cents. Send all orders to the office of the American Bee Journal, 118 W. Jackson Blvd., Chicago, Ill.

SO ever keep Hope, for in this is strength, and he who possesseth it can worry through typhoid.

—Rudyard Kipling.

American Bee Journal

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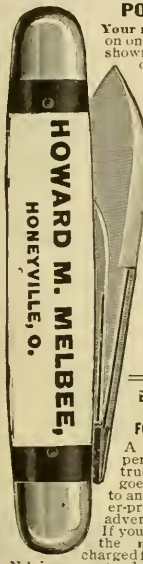
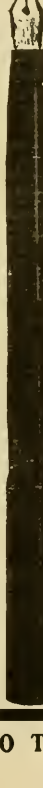
BEE-KEEPERS' NOVELTY POCKET-KNIFE



Your name and address put on one side of the handle as shown in cut, and on the other side pictures of a queen-bee, a worker, and a drone. The handle is celluloid and transparent, through which is seen your name. If you lose this knife it can be returned to you, or serves to identify you if you happen to be injured fatally, or are unconscious. Cut is exact size. Be sure to write exact name and address. Knife delivered in two weeks. Price of knife alone, postpaid, $1.25. With year's subscription, $1.50. **Free** for 5 new 50c subscriptions.

BEE-KEEPER'S GOLD-NIB FOUNTAIN PEN



A really good pen. As far as true usefulness goes it is equal to any of the higher-priced, much-advertised pens. If you pay more it's the **name** you're charged for. The Gold Nib is guaranteed 14 Karat gold, Iridium pointed. The holder is hard-rubber, handsomely finished. The cover fits snugly and can't slip off because it slightly wedges over the barrel at either end. This pen is non leakable. It is very easily cleaned, the pen-point and feeder being quickly removed. The simple feeder gives a uniform supply of ink to the pen-point without dropping, blotting or spotting. Every bee-keeper ought to carry one in his vest-pocket. Comes in box with directions and filler. Each pen guaranteed. Here shown ⅔ actual size.

Price alone, postpaid, $1.00. With a year's subscription, $1.25. **Given free** for 5 new subscriptions at 50 cents each.

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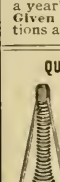

The Monette Queen-Clipping Device is a fine thing for use in catching and clipping Queens' wings. 4½ inches high. It is used by many bee-keepers. Full printed directions sent with each one.

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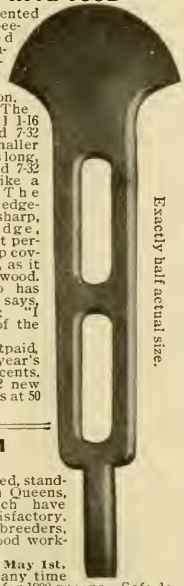

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AND CHEER THIS LONELY HEART?
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AND WE WOULD NEVER PART

A "Teddy Bear" on good terms with everybody including the bees swarming out of the old-fashioned "skep." Size 3⅛ x 5¼, printed in four colors. Blank space 1⅝ x 3 inches is for writing. Prices—3, postpaid, 10 cents; 10 for 25 cents. Ten with a year's subscription, 60 cents. 6 **given free** for **one** 50-cent subscription.

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American Bee Journal

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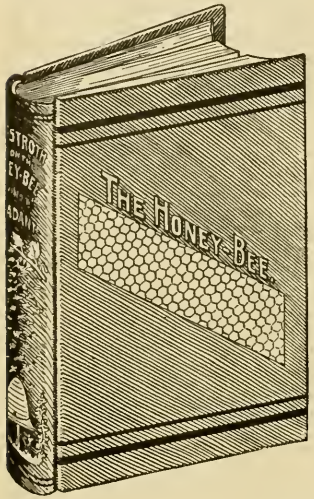

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If not acquainted with this honey, send me ten cents and I'll mail you a generous sample and the ten cents may apply on the first order that you send.

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150 8-frame Plain 90 10-frame Plain
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They are daughters of a Doolittle queen mated to drones of the Moore strain. By use of all worker-comb and drone-traps on Doolittle colonies no drones are allowed to fly but drones of the Moore strain. This strain are the finest honey-gatherers I ever reared, and they always have reproduced themselves.

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I guarantee safe arrival and a well-pleased customer.

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Covert, Kan., Sept. 12, 1907.
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Improved red clover Italians. Select untested. 75c each. Safe arrival guaranteed. 8A3t

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CARNIOLAN QUEENS and ITALIANS
Untested, 75c. Tested, $1 00
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When we announced the completion of the new edition late in 1907 there was a good deal of satisfaction to notice the big bunch of orders on hand, although we did regret the unavoidable delay in getting the books to some customers who had waited patiently for months. Over two thousand copies of this edition have already been sent out. We believe all urgent orders have been filled. We felt that the change of price to $1.50 postpaid might cause a little slackening in the demand. Not so, however, for in all our experience the orders never came faster.

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Gleanings in Bee Culture

If you haven't seen a late copy of Gleanings you can't tell from any brief description how really magnificent it is. There are many valuable departments, and our subscribers just at this season of the year are telling how much they appreciate the paper.

Each issue is very fully illustrated. The covers are done by the finest engravers in Chicago, and our writers are the best in the land. Besides dozens of writers of prominence whose names we can't even mention for lack of space, we have such men as Dr. E. F. Phillips, U. S. Dept. of Agriculture; Dr. Edward F. Bigelow, Associate Editor St. Nicholas; F. Dundas Todd, former Editor Photo-Beacon; Allen Latham, Connecticut, etc.

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For large apiaries, or where the honey comes with a rush and labor is scarce, you should investigate our power machines. A circular of these will be sent on request.

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Poultry-raisers have found that the better the incubators and brooders they use, the better the foods they feed, the more money they make, and the more pleasure they get out of their fowls. We want to supply you with the better incubators and brooders, foods and supplies. We manufacture and market the best goods in the world in our line. The "United" incubators and brooders—standard the world over, and favorites with poultry people—are our leaders in the machine line. "Banner" and "Fidelity" Foods need no argument to convince you of their merits. We manufacture and guarantee them. By buying all your supplies at one place you will save on freight, and will always get a quality you can depend on. Send us your orders and save money. Before you buy elsewhere write for our free catalogs. Do it to-day.

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Address, W. F. & JOHN BARNES,
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Stanley Queen Incubator and Brooder

An arrangement that allows the bees access to the cells and Queens at all times. Patented July 7, 1903. Price, each, $5.00.

Stanley Twin Nucleus Box

An arrangement that has control of the Queen by a 3-hole wheel, with one entrance screened, one hole with queen-excluding zinc, and one hole to regulate entrance. (Patent applied for.) Price, each, $1.00. **Cylinder Cages**, postpaid, each, 10c. **Queen-Cells, 100 mounted**, with sample of Cylinder Cage (sent postpaid) for 75 cents.

Bees and Queens

Nuclei—One 3 L. frame, $2.50; price of Queen to be added.

Queens—Tested Italian, each, $1.25, or $10 a dozen. Breeding Queens, $2 to $3 each. I have a few Imported Italian Queens at the same price.

Untested Queens after May 15th—Italian (warranted) 75 cents each; dozen, $7.00. Carniolan, Caucasian and other strains, untested, 75c each, or $7.00 a dozen.

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My queens are reared from selected mothers, and by the best and most approved methods.

Untested queens, from June to October, single queen, 60 cts.; three for $1.60; six for $3.00; twelve for $5.75.

Tested queens, in April, $1.40, or three for $4.00. In May, $1.25 each, or three for $3.60. In June, $1.00 each or three for $2.50.

One-, two-, and three-frame nuclei and full colonies. Send for price-list on these. Post office money orders on Bluffton preferred. CALF

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My stock is the result of years of careful selection, and is equal to any in the country. The prices are only such as to insure long-lived, prolific queens, whose workers will be hardy and good honey gatherers. Write for 1908 circular.

	PRICES		
	1	6	12
Untested	$1.00	$5.00	$9.00
Select untested	1.25	6.50	12.00

Tested, $1.75 each; select tested, $2.00 each.

I am booking orders now, delivery after May 25.

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for 15 years. It has increased each year. We want your order this year and will quote you attractive prices. Our prices are f. o. b. cars here. We furnish bees in any quantities. Have seven hundred colonies in our own yards. Catalog free. Colony of Ital. bees in new hive, $9. Ital. queen, $1.

I. J. STRINGHAM,

Apiaries, Glen Cove, L. I. 105 Park Pl., N. Y. City

Honey and Beeswax

CHICAGO, July 22.—The honey yield of this season is beginning to come on the market. At this writing the demand for it is limited, but we usually have a very good demand by the beginning of August. What sales are being made now are on a basis of 15c for fancy white comb. For lots of any size this would be shaded, say a cent or so per pound; although a determination not to accept lower prices is our purpose at this time, as we believe the fine quality of the honey will create a demand for it that will pay this price. The consignments received up to this writing are most desirable, in that the sections are well filled and the honey securely fastened to the same, giving promise that much of the honey will grade A No. 1 to fancy. August and September are favorable months for transporting honey, as the wax is strong and there is seldom any of it broken in transit. Indeed, we think at this time of the year honey shipped without being crated in carriers of 6 or 8 cases comes quite as safely as that in the carriers. The demand for extracted honey for family purposes is quite limited, and will be for a little while to come; meantime clover honey is being sold at from 7 to 8c per pound, amber 5 1-2 to 6 1-2c. The variation in price is caused by quality, flavor and style of package. Beeswax sells freely at 30c, when clean and of fair color.

R. A. BURNETT & CO.

SAN FRANCISCO, July 25.—Present f. o. b. prices for extracted honey in carload lots are: Light amber, 5¾ to 6c; white, 6 to 6 1-2c; water-white, 6 1-2 to 7c. Beeswax, 23 to 26c. GUGGENHIME & CO.

LOS ANGELES, July 28.—Honey quotations are as follows: Light amber, 5c; white, 5 1-2c; water-white, 6 1-2c. Beeswax, 23c. In many locations the crop has been a failure. There will probably be very little honey in this section. H. J. MERCER.

CINCINNATI, July 22.—There is an abundance of comb honey arriving daily, and no demand for same. Can give no other reason than perhaps hard times. People do without it. Fair demand for extracted white clover, which is selling at 7½ to 8c; amber in barrels is selling at 5½ to 6c. Beeswax, light demand at 33c.

C. H. W. WEBER.

DENVER, July 24.—We quote white extracted 8 to 9c, light amber and strained at 6¾ to 7½c. Comb honey, No. 1, $3.50, No. 1 light amber $3.35, No. 2 $3.20 per case. These are the prices we have obtained for the first few cases of the new crop; with the advent of larger lots prices will drop quickly.

THE COLO. HONEY PRODUCERS' ASS'N.

KANSAS CITY, MO., July 22.—The honey market here is a little slow at present on account of the abundance of cheap, fresh fruits; there is quite a little honey coming to market, and prices range from $3.35 for fancy white in 24-section cases to $2.75 for amber and off grades. Extracted brings 7½c. We look for a good demand for honey after Sept. 1. The crop in this section seems to be fairly good.

C. C. CLEMONS & CO.

PHILADELPHIA, July 21.—This has been unquestionably the greatest honey season we have had in the East for a quarter of a century. The first lot of 3000 lbs. arrived in Philadelphia on the river boat yesterday, and was offered at 10½c for the amber, and and 12½c for white, no other sales being made. The market is not as yet established, but we are looking for low prices. Beeswax firm at 28c. WM. A. SELSER.

NEW YORK, July 23.—There is quite a little of off grades of white, amber and buckwheat comb honey on the market of last year's stock with no demand. We are having a fair demand for fancy and No. 1 white, and are receiving shipments now principally from the South, which are selling at from 14 to 15c. This, of course, is in a small way, as large buyers are not interested as yet. Extracted honey is in fair demand. Last year's crop is fairly well exhausted, but receipts of the new crop, principally from the South, are quite heavy and sufficient to meet all demands. Prices, however, are fluctuating, and the market is not settled. We quote: Fancy Southern, 70 to 75c per gallon; common to average grades, 58 to 65c, according to quality. Demand for beeswax is not as brisk, with plenty of supply, and selling at from 29 to 30c, with indications that lower prices will prevail before long. HILDRETH & SEGELKEN.

INDIANAPOLIS, July 22.—The demand for honey has never been better, but prices are demoralized at present, and as a consequence very little honey is moving. Strictly fancy white comb honey is being offered by producers as low as 12 cents, and best extracted in 5-gallon cans as low as 7 cents. Amber honey does not seem to be mentioned on this market. Beeswax is in good demand and brings 28 cents, spot cash, delivered. WALTER S. POUDER.

ZANESVILLE, OHIO, July 22.—Some honey is arriving on this market from local producers, but practically none from outside except Cuban. For clover honey jobbers are offering 14c for fancy, and 13c for No. 1. The wholesale price is scarcely established. There is a much improved demand for native honey, but scarcely any for the imported. Extracted in small retail packages is moving slowly. Beeswax brings 28 to 29 cents on arrival. EDMUND W. PEIRCE.

TOLEDO, July 23.—The honey market at present is not as yet settled. However, we think the crop is about harvested for this season. We quote; Fancy white clover comb honey, 15 to 16c; No. 1 14 to 15c, with no demand for amber or dark honey. Extracted in barrels is oringing 6 to 6½c; in cans, the same. Small lots 1-2c higher. Beeswax, 26 and 28c. On account of the high prices last season some bee-keepers seem to think they will get the same this year, but we hope they will not hold their crops too late, as has been done in past seasons, as the crop is exceedingly good in this locality. GRIGGS BROS. & NICHOLS CO.

Headquarters for Bee-Supplies

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At Root's Factory Prices

Honey Wanted

Fancy white clover Comb and Extracted. State how it is put up, and the price expected, delivered Cincinnati.

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Office and Salesrooms, 2146-48 Central Ave. Warehouses, Freeman and Central Aves.

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We also have for sale 60-pound Honey Cans, 2 cans in case. Both cans and cases in A1 condition, at 30c per case. 8A3t

Michigan White Clover Honey Co.

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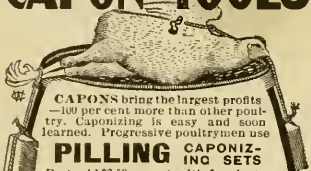

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Are sending out choice Italian Queens at the following prices: Untested—1, $1; 3, $2.50; 12, $9. Tested—1, $2; 3, $5; 12, $18. Breeders—$2.50, $5, and $10.

Borodino, Onondaga Co., New York.

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Golden and Clover stock. Choice Queens 75 cents each; 6 for $1.00; or $7.50 a dozen. Circulars for 1908 free, send for one.

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Golden Italian Queens

By Return Mail, 60c.

July and after, 50c. Queens are from select strain. J. F. MICHAEL, Rt. 1, Winchester, Ind. 6A3t

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Untested, 75c each; $8.40 per doz. Tested, or Warranted purely mated, $1.00 each; $10.80 per doz. 4 or more queens ordered at one time filled at dozen rates. No disease. Quality, promptness and absolute satisfaction guaranteed. Also nuclei and full colonies. Send for price-list. 7Atf

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Honey is high—short crop last year.

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No. 9

September, 1908

75c. a Year
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AMERICAN BEE JOURNAL

Apiary of George Kirker (See page 263)

E. M. Frame Examining a Frame (See page 264)

Mass Agl College jun12
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THE AMERICAN BEE JOURNAL

PUBLISHED MONTHLY BY

GEORGE W. YORK & COMPANY

118 W. Jackson Blvd., Chicago, Ill.

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1st.—To promote the interests of its members.

2d.—To protect and defend its members in their lawful rights.

3d.—To enforce laws against the adulteration of honey.

Annual Membership Dues, $1.00.

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Tops and bottoms of one piece. Let us know your wants, and we will be pleased to quote you lowest figures.

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Standard Hives with latest improvements, Danzenbaker Hives, Honey-Boxes, Comb Foundation and everything that is used in the bee-yard. Large illustrated catalog mailed free. Finest White Clover Extracted Honey for sale in any quantity desired.

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It has built its Reputation and established its Merits, on its own Foundation and its own Name.

We make a Specialty of Working Wax into Foundation for Cash.

Write for free catalog and prices on full Line of Supplies.

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Pure Italian Bees in up-to-date hives for sale. Quote prices on Honey and Beeswax. Send for complete catalog.

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I want to trade **Buff Orpington Cocks** for Red Clover or 3-banded Italian queens. Cocks, fine, large ones—$1.50 each. What do I hear?

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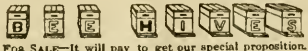

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FOR SALE 1908 crop of White Clover Honey, all extracted from capped combs. A strictly fancy table honey that will please. Price, 10 cts. Sample free. Put up in 60-lb. cans either square or round. WARREN H. WINCH, Hopkinton, Iowa

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Improved superior Italians, and nothing but Italians, is what QUIRIN furnishes, northern bred and hardy. All our yards are wintered on summer stands, and not a single colony lost the past winter—over 20 years a breeder.

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Select queens	$ 75	$4 00	$ 7 00
Tested queens	1 00	5 00	9 00
Select tested queens	1 50	8 00	15 00
Breeders	3 00	15 00	

Queens now promptly by return mail. Safe delivery of queens guaranteed. Nice, fancy white clover comb honey now ready at $3.50 per case in not less than six case lots, 24 sections to case.

Quirin-the-Queen-Breeder, Bellevue, O.

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Italian and Caucasian BEES, QUEENS and NUCLEI

Choice home-bred and Imported stock. All queens reared in full colonies.

Prices for July and After

One Untested Queen	$ .75
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One Select Tested Queen	1.10
One Breeder Queen	1.65
One Cmb Nucleus (no queen).	.80
One Tested Caucasian Queen	1.10

Safe arrival guaranteed. For prices on larger quantities and description of each grade of queens, send for price list.

All queens by return mail. A few hundred pounds of Comb Foundation. Send for sample and price.

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Not Cheap Queens, But Queens Cheap.

Bred from the very best selected strain. Guaranteed to work any flower.

Italian Bees Work or Money Refunded

Untested Italian queens in lots as follows:
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Tested Italian queens in lots as follows:
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Nuclei with untested Italian queen:
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Nuclei with tested Italian queen:
One fr., $2.00; Two fr., $2.50; Full Col. $5.00.

The above queens are all reared from the very best selected red clover Italian queens. Orders filled by return mail. Dealer in Bee-Keepers' Supplies.

4A1t **W. J. Littlefield,** R. F. D. No. 3 Little Rock, Ark.

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By Return Mail

1 Queen 75c; 6 for $4.00; 12 for $7.00.
Circular Free.

D. J. Blocher, Pearl City, Illinois.

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10A34t Please mention the Bee Journal.

Untested Italian Queens by Return Mail

$4.00 for 6 queens; $2.10 for 3; or 75c for

A Standard-Bred Italian Queen-Bee

For a number of years we have been sending out to bee-keepers exceptionally fine Untested Italian Queens, purely mated, and all right in every respect. Here is what a few of those who received our Queens have to say about them:

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GEORGE W. YORK & CO.:—The two queens received of you some time ago are fine. They are good breeders, and the workers are showing up fine. I introduced them among black bees, and the bees are nearly yellow now, and are doing good work. A. W. SWAN.
Nemaha, Co., Kan., July 15, 1905.

✣✣✣

GEORGE W. YORK & CO.:—After importing queens for 15 years you have sent me the best. She keeps 9⅋ Langstroth frames fully occupied to date, and, although I kept the hive well contracted, to force them to swarm, they have never built a queen-cell, and will put up 100 pounds of honey if the flow lasts this week. CHAS. MITCHELL.
Ontario, Canada, July 22, 1905.

✣✣✣

GEORGE W. YORK & CO.:—The queen I bought of you has proven a good one, and has given me some of my best colonies. N. P. OGLESBY.
Washington Co., Va., July 22, 1905.

✣✣✣

GEORGE W. YORK & CO.:—The queen I received of you a few days ago came through O.K., and I want to say that she is a beauty. I immediately introduced her into a colony which had been queenless for 20 days. She was accepted by them, and has gone to work nicely. I am highly pleased with her and your promptness in filling my order. My father, who is an old bee-keeper, pronounced her very fine. You will hear from me again when I am in need of something in the bee-line. E. E. MCCOLM.
Marion Co., Ill., July 13.

We usually begin mailing Queens in May, and continue thereafter, on the plan of "first come first served." The price of one of our Untested Queens alone is 75 cents, or with the monthly American Bee Journal one year—both for $1. Three Queens (without Journal) would be $2.10, or 6 for $4.00. Full instructions for introducing are sent with each Queen, being printed on the underside of the address-card on the mailing-cage. You cannot do better than to get one or more of our fine Standard-Bred Queens.

Address, GEORGE W. YORK & CO., 118 W. Jackson, Chicago. Ill,

FOR SALE

300 Surplus Tested young Queens, Red Clover or Golden—50 cents each as long as they last. Also 370 10-frame Root Hives, lid and bottom, 10 combs wired on foundation, one Danz. super trimmed and full sheets of foundation—$1.00 each, complete. No disease.

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QUEENS

of the Robey strain of three-banded Italians during the season of 1908. Warranted queens, 75c each; $4.25 per six; $8.00 per doz. Tested queens, $1. Satisfaction or money refunded.

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This watch is stem wind and pendant set. It is made to meet the popular demand for an accurate timekeeper at a low cost.

It is open face, heavy beveled crystal. Bezel snaps on. Lantern pinions, American lever escapement, polished spring encased in barrel. Short wind and long run—30 to 36 hours in one winding. The manufacturers give the following warranty:

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Your name and address put on one side of the handle as shown in cut, and on the other side pictures of a queen-bee, a worker, and a drone. The handle is celluloid and transparent, through which is seen your name. If you lose this knife it can be returned to you, or serves to identify you if you happen to be injured fatally or are unconscious. Cut is exact size. Be sure to write exact name and address. Knife delivered in two weeks. Price of knife alone, postpaid, $1.25. With year's subscription, $1.75. **Free** for 4 new 75c subscriptions.

BEE-KEEPERS' GOLD-NIB FOUNTAIN PEN

A really good pen. As far as true usefulness goes is equal to any of the higher-priced, much-advertised pens. If you pay more it's a name you're charged for. The Gold Nib is guaranteed 14 Karat gold, Iridium pointed. The holder is hard rubber, handsomely finished. The cover fits snugly, and can't slip off because it slightly wedges over the barrel at either end. This pen is non-leakable. It is very easily cleaned, the pen-point and feeder being quickly removed. The simple feeder gives a uniform supply of ink to the pen-point without dropping, blotting or spotting. Every bee-keeper ought to carry one in his vest-pocket. Comes in box with directions and filler. Each pen guaranteed. Here shown two-thirds actual size.

Price alone, postpaid, $1.25. With a year's subscription, $1.75. **Given free** for 4 new subscriptions at 75 cents each.

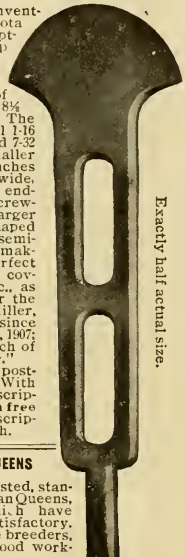
MONETTE QUEEN-CLIPPING DEVICE

The Monette Queen-Clipping Device is a fine thing for use in catching and clipping Queens' wings. Four and one-half inches high. It is used by many bee-keepers. Full printed directions sent with each one.

Price alone, postpaid, 25 cents. With a year's subscription, 90 cents. **Given free** for sending one new subscription at 75 cents.

IDEAL HIVE-TOOL

A special tool invented by a Minnesota bee-keeper, adapted for prying up supers and for general work around the apiary. Made of malleable iron, 8¼ inches long. The middle part is 1 1-16 inches wide and 7-32 thick. The smaller end is 1¼ inches long, ½ inch wide, and 7-32 thick, ending like a screw-driver. The larger end is wedge-shaped having a sharp, semi-circular edge, making it almost perfect for prying up covers, supers, etc., as it does not mar the wood. Dr. Miller, who has used it since 1903 says, Jan. 7, 1907: "I think as much of the tool as ever."



Exactly half actual size.

Price alone, postpaid, 40 cents. With a year's subscription, $1.00. **Given free** for 2 new subscriptions at 75c each.

PREMIUM QUEENS

These are untested, standard-bred Italian Queens, reports of which have been highly satisfactory. They are active breeders, and produce good workers.

Sent only after May 1st. Orders booked any time for queens. Safe delivery guaranteed. Price, 75 cents each, 6 for $4.00, or 12 for $7.50. One queen with a year's subscription, $1.20.

Queen **free** for 3 new 75c subscriptions.

HUMOROUS BEE POST-CARDS

O WONT YOU BEE MY HONEY,
AND CHEER THIS LONELY HEART?
FOR I WOULD HUG YOU ALL THE TIME,
AND WE WOULD NEVER PART
I CANNOT BEAR TO LOSE YOU

A "Teddy Bear" on good terms with everybody, including the bees swarming out of the old-fashioned "skep." Size 3½x5½, printed in four colors. Blank space 1½x3 inches for writing. Prices 3 postpaid, 10 cents; 10 for 25 cents. Ten with a year's subscription, 90 cents. Six **given free** for **one new** 75c subscription.

BOOKS FOR BEE-KEEPERS

Forty Years Among the Bees, by Dr. C. C. Miller.—334 pages, bound in handsome cloth, with gold letters and design, illustrated with 112 beautiful half-tone pictures, taken by Dr. Miller. It is a good, new story of successful bee-keeping by one of the masters, and shows in minutest detail just how Dr. Miller does things with bees. Price alone, $1.00. With a year's subscription, $1.50. **Given free** for 3 new subscriptions at 75 cents each.

Advanced Bee-Culture, by W. Z. Hutchinson.—The author is a practical and helpful writer. 330 pages; bound in cloth, beautifully illustrated. Price alone, $1.20. With a year's subscription, $1.70. **Given free** for 4 new subscriptions at 75 cents each.

A B C & X Y Z of Bee Culture, by A. I. & E. R. Root.—Over 500 pages describing everything pertaining to the care of honey-bees. 400 engravings. Bound in cloth, price alone, $1.50. With a year's subscription, $2.00. **Given free** for 6 new subscriptions at 75 cents each.

Scientific Queen-Rearing, as Practically Applied, by G. M. Doolittle.—How the very best queens are reared. Bound in cloth and illustrated. Price alone, $1.00. With a year's subscription, $1.50. **Given free** for 4 new subscriptions at 75 cents each. In leatherette binding, price alone, 75 cents. With a year's subscription, $1.25. **Given free** for 2 new subscriptions at 75 cents each.

Bee-Keeper's Guide, or Manual of the Apiary, by Prof. A. J. Cook.—This book is instructive, helpful, interesting, thoroughly practical and scientific. It also contains anatomy and physiology of bees. 514 pages, 295 illustrations. Bound in cloth. Price alone, $1.20. With a year's subscription, $1.70. **Given free** for 4 new subscriptions at 75 cents each.

Langstroth on the Honey-Bee, revised by Dadant.—This classic has been entirely rewritten. Fully illustrated. No apiarian library is complete without this standard work by "The Father of American Bee-Culture." 520 pages, bound in cloth. Price alone, $1.20. With a year's subscription, $1.70. **Given free** for 4 new subscriptions at 75 cents each.

"The Honey-Money Stories."—A 64-page booklet containing many short, bright stories interspersed with facts and interesting items about honey. The manufactured comb-honey misrepresentation is contradicted in two items, each occupying a full page. Has 33 fine illustrations of apiaries or apiarian scenes. It also contains 3 bee-songs. This booklet should be placed in the hands of everybody not familiar with the food-value of honey, for its main object is to interest people in honey as a daily table article. Price 25 cents. With a year's subscription, 90 cents. **Given free** for one new subscription at 75c.

Three copies for 50 cents or the 3 with a year's subscription, $1.00; or the 3 copies **given free** for 2 new subscriptions at 75 cents each.

Amerikanische Bienenzucht, by Hans Buschbauer, is a bee-keepers' handbook of 138 pages, which is just what our German friends will want. It is fully illustrated and neatly bound in cloth. Price alone, $1.00. With a year's subscription, $1.50. **Given free** for 3 new subscriptions at 75 cents each.

THE EMERSON BINDER

A stiff board ontside like a book-cover with cloth back. Will hold easily 3 volumes (36 numbers) of the American Bee Journal. Makes reference easy, preserves copies from loss, dust and mutilation. Price postpaid, 75 cents. With a year's subscription, $1.25. **Given free** for 3 new subscriptions at 75 cents each.

WOOD BINDER

Holds 3 volumes. Has wood back but no covers. Price, postpaid, 20 cents. With a year's subscription 80 cents. **Given free** for one new subscription at 75 cents.

BEE-HIVE CLOCK

A few of these handsome "bronze-metal" clocks left. Base 10½ inches wide by 9¼ inches high. Design is a straw skep with clock face in middle. Keeps excellent time, durable and reliable. Weight, boxed, 4 pounds. You pay express charges. Price $1.50. With a year's subscription, $2.00. **Given free** for 6 new subscriptions at 75 cents each.

SEND ALL ORDERS TO THE AMERICAN BEE JOURNAL, 118 W. Jackson, Chicago, Ill.

(Entered as second-class matter July 30, 1907, at the Post-Office at Chicago, Ill., under Act of March 3, 1879.)

Published Monthly at 75 cents a Year, by George W. York & Co., 118 West Jackson Boulevard.

GEORGE W. YORK, Editor | CHICAGO, ILL., SEPTEMBER, 1908 | Vol. XLVIII—No. 9

American Bee Journal Now 75c a Year.

On September 1, 1907, we placed the subscription price of the American Bee Journal at 50 cents a year. It was an experiment for us. We have given it a year's trial and are convinced that the kind of a journal that we are getting up each month can not be profitably maintained at so low a price as 50 cents. Besides, it is worth more than that if it is worth anything at all. No bee-paper has ever been successful at 50 cents a year. We have been giving every month more valuable bee-literature, we believe, than was ever given by any other monthly apiarian publication at even one dollar a year.

Bee-keepers are not cheap folks. They believe in the "live and let live" principle. There has been a fair crop of honey in most localities this year, and it will sell at a fair price if properly marketed. The cost of everything that goes into the making of the American Bee Journal is now higher than for years, and its 32 pages each month fairly teem with helpful, interesting information—so they tell us who ought to know. It costs a good deal to secure it and put it up in such attractive shape. The price should be one dollar a year, but beginning with September 1, 1908, we put it at 75 cents a year (3 years for $2.00, or 5 years for $3.00) in the United States and its possessions, also Mexico and Cuba (except in Chicago, where the postoffice department compels us to add 2 cents per copy for postage, making it $1.00 per year). To Canada it will be 85 cents a year; to other foreign countries, such as England, Australia, etc., it will be $1.00 a year. To South Africa and other countries not in the Universal Postal Union, it will be $1.25 a year.

We believe that every one of our readers who appreciates a good bee-paper, will commend us for making the change from 50 cents to 75 cents—which on individual subscriptions is only "a quarter" a year more, or about 2 cents a month more—that's all.

We wish to thank all our readers for the interest they are taking in the American Bee Journal, and especially for securing new subscriptions. On another page we make some liberal offers for the work of getting new readers. We hope it will be kept up, and that we may have a large increase in our subscription list.

And now, wishing all our readers success in their undertakings, we are,

Faithfully yours,
GEORGE W. YORK & CO.

Chicago, Ill., Sept. 1, 1908.

National Convention Next Month

Only about a month away is the National Bee-Keepers' Convention at Detroit.

Are *you* going to be there?

October 13, 14 and 15 are the dates.

The Wayne Hotel and Pavilion is where the meeting is to be held.

The Secretary is planning a great program.

Better arrange your work so as to be in Detroit on the dates given above.

You will miss a whole lot if you are not there.

Successful Uncapping Machine

We have at various times read of machines for uncapping honey for extracting, and also have seen illustrations of them, but so far as we know none of them have ever proven to be a marked success.

One Saturday afternoon last month we were invited to visit a bee-keeper some 25 miles from Chicago to see his uncapping machine at work.

It is a very simple machine, and does the work. Mr. Bee-Keeper uncapped at the rate of one Langstroth size extracting frame—both sides of the comb—in just 10 seconds. The necessary movements were to lift the beeless comb from the full super just from the hive, put it through the uncapping machine, and then set it in an empty super, ready to be put into the extractor.

Of course, it is necessary that the combs be very well built out and evenly sealed, for if uneven it is necessary to use an uncapping knife to uncap the low places where the short cells may still be capped after passing through the uncapping machine. Perhaps by using 7 combs in an 8-frame extracting super, or 9 in a 10-frame super, the combs would be sufficiently thick to insure *every* cell being uncapped by the machine.

In its present form it is necessary to use a certain style of frame, but we are very certain the machine could be made adjustable to any size or shape of frame. If so, it is going to be a great thing for the extracted-honey producer. And its cost will not be prohibitive either—probably not much if any over $20.

We are not at liberty to say more now, as likely a patent will be applied for, its manufacture arranged, and then placed on the market. It is so very simple, and yet does the business perfectly. We hope to be able to illustrate it in these columns long before another extracting season rolls around.

Yes, sir, we believe the successful honey-uncapping machine is very near at hand. And when it arrives, there will be another advance step in the production of honey.

Honey Advertising

It is almost surprising how few honey-producers there are who advertise their honey for sale. And it is equally sur-

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prising how few dealers there are who advertise to buy honey.

Have you ever noticed that some of those who are wise enough, and enterprising enough, to advertise their honey for sale, are getting a higher price for it? They are getting 10 cents or more a pound for extracted. That extra 2 or 3 cents will not only pay for the advertising, but will amount to a whole lot more money as a profit on the honey sold, over and above the ordinary way of selling, or waiting for some one to come along and buy the honey.

Now, there are a lot of bee-keepers who ought to get in line this fall with the up-to-date methods of doing business. The bee-papers are here to help put the producers in touch with the consumers or dealers? They do not ask for the patronage of their advertising columns as a matter of charity. It is because the publishers believe that it will prove to be profitable to those who invest in such advertising.

We want to urge the readers of the American Bee Journal to patronize its advertisers more. We try to be careful not to admit any questionable advertisements in our columns. We want only clean, honest people represented—those with whom it is a pleasure to do business—not only once, but a continuous dealing.

Look over the honey advertisements in this number. Among them are Mr. Hutchinson and Mr. North, of Michigan. Of course they have fine honey to sell or they would be foolish to advertise it in such mouth-watering terms. Others may have equally superb honey, but lack the push and enterprise to offer it thus publicly to the world. Some folks need to wake up, and do business in a business-getting way.

"Wax Craft," by Thos. Wm. Cowan.

This is an entirely new book, written by Mr. Thos. Wm. Cowan, of England, editor of the British Bee Journal. It is "The history of beeswax and its commercial uses." It contains over 170 pages, with 37 illustrations on art paper. The cloth-bound copies are the most artistic of any gotten up in all beedom so far as we have seen. The following are the chapters and topics:

Chapter I.—Historical.
Chapter II.—Production of Beeswax.
Chapter III.—Wax Rendering.
Chapter IV.—Beeswax in Commerce.
Chapter V.—Refining and Bleaching Wax.
Chapter VI.—Adulteration of Wax.
Chapter VII.—Manufacture of comb Foundation.
Chapter VIII.—Coloring Wax.
Chapter IX.—Wax Candles and Tapers.
Chapter VII.—Manufacture of Comb Foundation.
Fruits and Figures.
Chapter XI.—Technical Uses of Wax.

The whole work is written in Mr. Cowan's simple yet eloquent style, and is of unusual interest to a bee-keeper or any one who has to do with beeswax production or its commercial handling. Mr. Cowan has rendered a distinct service to mankind in the preparation and publication of this book.

"Wax Craft," cloth-bound, is mailed for $1.00; or with the American Bee Journal one year—both for $1.50. Send all orders to the American Bee Journal office, but be sure to allow plenty of time for your copy of the book to come from England—from 2 to 3 weeks.

Old Queens and Requeening

John Silver was present at the Franco-British Congress of Bee-Keepers and among other things says this in the Irish Bee Journal:

"An Australian took the Congress by storm, the Herrods, Lambs and other *apis mellifico* tried to sting him out of his combs, but he stuck to his hives, and the onslaught retired discomfited. His theory consisted in this—that no animosity exists between a 3-year-old queen and a young one, and his practise is to keep his best queens till 3 years old and to requeen by inserting a queen-cell alongside of the 3-year-old queen, which results in 2 queens being in the hive for a time, the old one always disappearing before the next season. By this method of saving his best queens till their third year he has considerably lengthened the age of his bees. He marks his queens with paint—white one year, blue 2 years, and red for 3 years."

This evidently refers to that bright Australian, Mr. Beuhne, who lately visited this country. He holds that the animosity to a strange queen is on the part of the workers rather than on the part of the queen, especially if the reigning queen be as old as 3 years. Not only does he get a young queen introduced in the way mentioned, but sometimes he has 2 or more young queens reared in succession in the same hive where the 3-year-old, or still better a vigorous 4-year-old queen, presides, removing each young queen as soon as she lays, and introducing another cell.

Who Will be at the National?

We have the following from Secretary Hutchinson:

EDITOR YORK:—Often, after a National convention is over, more than one man has said, "If I only had known that Mr. Brown was going to be there, I would have gone." Now, before the coming of the convention I wish to publish in the bee-papers a list of all those who are going to be present. I suppose I will not be able to learn one-fourth of those who will go, but so far as I can learn, I'll give the names.

Now, will you have the kindness, at once, to take a postal and tell me if you are going? Or, if you should decide later that you are going, let me know, and it may be the means of your being able to meet some friend that you otherwise would not have seen.

W. Z. HUTCHINSON, *Sec.*

This is a good idea. We offered to do it several years ago in the American Bee Journal. The great difficulty is that many will likely not be able to say definitely that they can go, until perhaps a week or less before the actual dates of the meeting.

We hope that when the time (Oct. 13, 14, and 15) comes, Detroit will have the largest bee-keepers' convention this country ever saw.

Marketing Honey and Other Crops

We have found the following in Successful Farming. It is so good, and so splendidly applicable to honey-producers as well, that we decided to reprint it. Here it is:

"The farmer will never get what is coming to him until he knows how to market his produce, or hires someone who does know how. The first proposition is practically out of the question. Production is a life study. Marketing is a life study. Therefore life is too short to learn both. The farmer can get a fair knowledge of the science of marketing, but he hasn't time to put it to use. He can better afford to hire one who does nothing else, so he can devote his entire time to production.

"Mind you, we have said hire someone else. That does not mean that he is to pay commission to the commission men already in the field. It is advisable to find who are strictly honest and patronize honest commission men. They have devoted their time and risked their all in the business of marketing and are worthy of support. But dishonest men should be starved out. If there is no commission house that is practicing the square deal, then the farmers should establish one of their own, just as they have established co-operative grain elevators and creameries. A movement is on foot for the stockmen to establish stock commission houses in the market places. This will insure cheaper and better service. In other words, they hire men to look after their stock interests.

"The farmers surrounding any common market place (town) could organize so as to protect their interests. They could arrange with some experienced merchant to ship their eggs, potatoes, or what not. He will have to be honest with an organization watching him. The trouble with co-operation is that farmers are often unwilling to pay a good price for an experienced business manager, and because they take some inexperienced or dishonest man their scheme soon goes to the wall. The principle of co-operation and organization is correct. It is profitable when governed by business principles. Slipshod methods will not bring success.

"Towns have their commercial clubs to build up trade. The farmers should have their commercial clubs to work for their interests.

"Growing is one thing, marketing is quite another. It is costing the farmers millions of dollars because they do not realize this."

Bee-keepers in some parts of the country, particularly the far West, have already begun the co-operative marketing of their honey. It ought to be the best way, and doubtless is, when properly managed.

Advertising Lesson for Bee-Keepers

The millers of the Northwest at their recent convention decided to spend $100,000 in an active campaign in behalf of white flour. They say they were forced to do this by the oft-repeated assertion of the breakfast-food manufacturers and others that fine bolted wheat flour, when made into bread, produces stomach troubles, whereas there is no truth in such a statement. For years Americans have had it dinned into their ears that fine white flour is injurious, with the result that the sale of it has been seriously curtailed—at least the millers entertain that opinion. Bee-keepers can learn a valuable lesson from the millers as to the value of printers' ink. They can learn another—not to allow derogatory statements about honey to appear in the public prints. After a while people get to believe such statements to be true, and act accordingly. The net result is that the whole industry is hurt.—Gleanings in Bee Culture.

Several years ago The Honey-Producers' League was organized among bee-keepers for the very purpose of counteracting the misrepresentations about honey in the general newspaper press, and also to increase the demand for honey. But it didn't get the support it deserved, and so was discontinued.

American Bee-Keeper Suspended

With the August number the American Bee-Keeper was discontinued. Its publishers, The W. T. Falconer Mfg. Co., of Jamestown, N. Y., desired to be relieved of at least that much extra responsibility, so they decided not to go on with it. It was in its 18th volume. Editor Hill was improving it right along, and it seems too bad that it should drop out of the field. Those who best know Harry F. Hill, who has so ably edited the paper, will not be surprised that one of his artistic ability—he's 'way up in matters photographic—should want freer scope at that for which he is so eminently fitted. Mr. "Harry" is a born bee-keeper, and it is hardly possible that he can let his bees entirely alone.

There are still three bee-papers left

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in the United States. They are Gleanings in Bee Culture, the Bee-Keepers' Review, and the American Bee Journal. The last named is in its 48th year, Gleanings in its 36th year, and the Review in its 21st.

The Canadian Bee Journal is the only other bee-paper on the North American continent. And it seems to be doing very nicely under its new management.

LATER—Since the foregoing was put in type, we have arranged to take over the list of subscribers of the American Bee-Keeper. So those whose subscriptions were paid in advance to that paper will begin with this copy to receive the old American Bee Journal each month. We trust that they will be pleased with it, and after the expiration of their present subscription will continue among our regular readers.

Those American Bee-Keeper subscribers who were already getting this Journal will be properly credited on our list the length of time they were paid in advance on the American Bee-Keeper list, in addition to their present advance subscription on our list. We will adjust all these matters as rapidly as possible, and hope that the uniting of the two "colonies" of readers may be peaceably accomplished, and enjoyable to all concerned.

Apiary of George Kirker

The picture herewith [See first page.—ED.] is of my apiary. I have 34 colonies now. I harvested about 1000 pounds of comb and extracted honey this year. It has not been a very good season here. GEORGE KIRKER.

Bancroft, Mich.

Not a Candidate

Mr. Hutchinson, Secretary of the National Bee-Keepers' Association, sends us the following:

EDITOR YORK:—I note that a call has been made for a postal card vote nominating candidates for election to office in the National Association, and, in this connection, let me ask my friends not to vote for me for any office. Other duties are too numerous to allow me to do justice to an office.

W. Z. HUTCHINSON, *Sec.*

"Judge" France at the Fairs

General Manager N. E. France has been judging honey at several State Fairs this month. He was at the Wisconsin, Minnesota, and several others. Surely, Mr. France is a busy man. But he seems to enjoy it as he goes along, which is fortunate. His work in the interest of bee-keeping and bee-keepers can never be fully paid.

Bee-Keeping Quite a Business

Dr. E. F. Phillips says this in the Journal of Economic Entomology:

"Every year the manufacturers of supplies in this country make from 60,000,000 to 75,000,000 sections for comb honey, and practically all of these are used in the United States. A study of market conditions will reveal the fact that there is three or four times as much extracted honey as comb put on the market, mainly because of the heavy demand for confectionery and baking purposes. A species of insect which forms the basis for an industry adding from $20,000,000 to $25,000,000 to the resources of the country annually is well worthy of consideration in economic entomology."

Suppose we take the smaller number of sections mentioned, call them the common 4¼ x 4¼, and 17 inches long while unfolded. (By the way, like as not you've always thought of these sections as 17 inches long. Well, they're not; they're ⅛ inch short of that. But call them 17 for easy figuring.) If laid end to end in a straight row, 60,000,000 of sections would reach 16,098 miles, or about two-thirds of the way around the earth.

Foul Brood at the National

EDITOR YORK:—Do you understand that at the coming convention at Detroit, Drs. Phillips, White, and a few bee-inspectors are to be "the whole show" in discussing foul brood and other diseases of bees? If so, I can learn fully as much by staying at home and reading the report. In short, while I wish all the light that the revelations of the microscope can give us, I am not ready to turn the whole subject over to the above-named two men from Washington, and a few inspectors. For I have reason to believe that there are a number of bee-keepers, who are not inspectors, who know fully as much, through practical experience, about foul brood and its diagnosis, as any who are aided by the microscope. In other words, I hope we will have a full, free-for-all discussion of this foul-brood subject, for to my mind that disease is at this hour doing more harm to bee-keeping interests than anything else. G. BOHRER.

Lyons, Kans.

No, Dr. B., we don't think that those mentioned are going to monopolize all the time of the convention. At San Antonio there was a wide opportunity given for any one present to ask and answer questions. You can't stop any one from talking at a bee-keeper's convention, if he is gentlemanly or courteous, and "sticks to the text." But a few in nearly every convention have a way of wanting to occupy most of the time by talking all over creation, including No-Man's-Land.

Apiary of D. E. Wood

This apiary is located on Long Island, New York, and consists of 40 colonies of Italian bees. Mr. Wood runs entirely for extracted honey, securing locust and white clover in the spring, buckwheat and sumac in the summer, and goldenrod and aster in the fall. His average crop is 75 pounds of extracted honey per colony, which he sells locally, and most of it in 60-pound cans. For the locust and white clover he receives 10 cents per pound, and for the summer and fall honey $5 per can.

Mr. Wood has a fine place of 22 acres, and has just built a new house. When he is settled in his new home he intends to devote his time to raising bees and chickens.

On the Wabash to Detroit

We have taken up the matter of transportation with the Wabash Railroad, from Chicago to Detroit, during the National Convention, Oct. 13, 14 and 15, and find that the rate from Chicago to Detroit, one way, is $5.50.

Those desiring to make this trip a pleasure trip as well as one to attend the Convention, can purchase a ticket reading Chicago to Niagara Falls, Gorge Route to Lewiston, Niagara Navigation Co.'s Boat to Toronto, returning Canadian Pacific to Detroit, and Wabash direct, for $19.50. This ticket is good for 30 days from date of sale.

In addition to the above those desiring will have the option of a boat-ride between Detroit and Buffalo on either steamers of the Anchor Line, Detroit &

APIARY OF D. E. WOOD.

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Buffalo Line, or Northern Steamship Line of steamers. This lake trip is without any additional charge. The above ticket also permits stop-overs at Detroit and any point in Canada. Those desiring to attend the convention can secure stop-over privileges of 10 days at Detroit on the going trip, by depositing their ticket with the local ticket agent at Detroit, receiving a receipt for same, and upon date continue the journey, ticket being returned to them with an extension.

If the members desire a daylight ride from Chicago to Detroit, special chair cars will be furnished (seats free). If a night trip, the Pullman sleeping-car berth-rate is $2.00.

There are a number of attractive side-trips to be made from Detroit, such as boat-rides to Put-in-Bay, boat to Cleveland, and many short excursion trips to Mt. Clemes baths by trolley, by boat up the St. Clair River, etc.

Let us urge that every bee-keeper going to the convention, and purchasing a ticket over the Wabash Railroad, mention to the ticket agent the fact of being a bee-keeper. Please don't forget this.

We hope there may be a large number of members passing through Chicago. Of course the distance from Chicago to Detroit is too short to make a special carload very enjoyable. If, however, those from the West and North should come through Chicago, and should go over the Wabash from here, the rest of u might join them.

A Correction and Addition

In the article by Rev. Alois J. Klein, on page 239 of the August issue, in the middle column and the 17th line from the top, where it reads "facing west," it should have been "facing *east*," referring to hive-entrances.

Also Mr. Klein desired to give Mr. Frank Pacula, of Weston, Neb., the credit for having started him in the bee-business. In the spring of 1899, Mr. Pacula lost nearly all his bees through winter and spring dwindling, out of 18 colonies only 2 surviving. Of the remaining 2 he donated one to Mr. Klein, who, had it not been for that, thinks he certainly should not have made a start in the bee-business at that time.

"Hawaiian Honeys"

This is the title of Bulletin No. 17, of the Hawaii Agricultural Experiment Station, just issued. It contains two parts, one by D. L. Van Dine and the other by Alice R. Thompson. The bee-industry has developed into one of considerable importance there, the production for last year being about 600 tons.

Maryland Bee-Keepers to Organize

Mr. C. G. Chevalier, one of the most interested bee-keepers of Maryland, sends us the following from the Baltimore American, regarding a proposed organization of the bee-keepers of that State:

In the course of the investigation of the bee-industry of Maryland, at College Park, Md., which was inaugurated this season by the State entomologist in conjunction with the division of apiculture, United States Department of Agriculture, it is found that a large number of bee-keepers are desirous of forming an association which will enable them to meet together and discuss the best means of handling bees and various other subjects incident to a successful conduct of an apiary. There are a large number of bee-keepers in Maryland.

Professor Symons, the State entomologist, in speaking of the investigation, said today: "Many reports have been made showing that foul brood, the dreaded disease of the apiary, is attacking the young bees in different parts of the State. The reason for taking up this investigation was, first, to learn the extent of the industry in the State; second, to learn the amount of damage being done by foul brood, moth or other pests of the apiary; and, third, to disseminate information as to the proper handling of bees and to urge the desirability of having bees on every farm in the State.

"We intend doing everything in our power to promote this industry in Maryland, for the State is particularly adapted to bee-keeping. We find bee-keepers live men, and we hope to have a strong organization in the State in the near future."

Apiary of E. M. Frame

Picture No. 1 is a view of my small back-yard apiary. At the beginning of May I had one colony of Italian bees in a store-box which were given me by my brother. I now have 4 colonies—2 were natural and one artificial. The parent colony was transferred to a modern hive.

The picture shows the style of hive-stands I use. They hold the hive about 8 inches from the ground, which I find is a very convenient height to work with when sitting.

Picture No. 2. [See upper picture on first page] shows manipulation of frames in nucleus box. I took 3 frames of brood and honey from one of the strong colonies to make this nucleus. I then attempted to introduce an untested Italian queen. She was in a Benton mailing and introducing cage, and after being on top of the frames for 24 hours, I liberated her as the bees seemed quiet. In about one hour I looked the frames over, but could find no queen, and when about to give up hunting, I noticed a ball of bees down in one corner of the box, which I quickly dropped in a pan of water, but as the bees separated I found only a royal corpse in the center. Queen-cells were already started, and in a week one was almost ready to hatch, when, one morning, I found it ripped open on the side, and empty, which I have since learned means another queen present. And that was just what was the matter here, for in 2 days more I found eggs present, and then I went to searching in earnest, with the result that I found a fine, large queen present.

Quickly going to the hive from which I had taken the frames, I found about a dozen queen-cells, some almost ready to hatch. Then it was all clear to me. In making the nucleus I had taken the queen from the parent hive, and did the very thing which I was anxious not to do.

So in making increase in this way, I would advise all amateurs (myself included) that we can not be too careful in looking for her majesty, and knowing for certain just where she is to be found.

Picture No. 3 shows the bees of the swarm entering the hive, which were deprived of a royal mother for so long by the carelessness or inexperience of an amateur bee-keeper.

I will not have any surplus honey this season as I find honey and increase do not generally go together. But I am very well satisfied with my first season's experience with the bees.

E. M. Frame.

Blue Rock, Ohio, Aug. 4.

No. 1. Apiary of E. M. Frame. No. 3.

Visiting the Canadian Northwest

Mr. and Mrs. C. P. Dadant, of comb foundation fame, spent considerable time last month in visiting the Canadian Northwest and other Rocky Mountain localities. Mr. Dadant very kindly sent us a sample of giant white clover and dwarf goldenrod, picked in the Canadian Rockies, where no honey-bees are to be seen, but where bumble-bees are plentiful. The white clover stalk is 17 inches long, and the blossom head is of corresponding size. That country ought to be a good place for bee-keepers. The letter containing the samples of white clover and goldenrod was postmarked at Banff, Alta, Canada, Aug. 8, 1908.

Premiums for the Detroit National

In the Sun Palace, at Detroit, Mich., where the National convention is to be held in October, is a large room, 40 x 50 feet across, the sides of glass, and I hope to see this room well filled with a display of supplies, bees, honey, beeswax, etc.

Of course, the advertising that comes from a display of goods will amply repay any dealer for making a display, but in order to bring out any display of bees, honey and beeswax, there must be some inducement, some premiums offered, and, of late, it has become the fashion for dealers to offer some of their wares as premiums, in consideration of the advertising that comes to them from the mention of their names, as the announcements appear in the

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program that is published in all of the bee-papers, sent out in pamphlet form to all of the members, as well as distributed and used at the convention.

I am now making up the program, and take this public method, that none may be overlooked, of asking dealers to write and let me know what they can contribute in the way of premiums. I would suggest that premiums be offered something as follows:

Best and largest display of single-comb nuclei of different varieties of bees, accompanied by queens; condition of bees, purity of race, and beauty of hives, to be the competing points.

Best 10 sections of comb honey, completeness of filling of section, evenness of surface of comb, completeness of capping, freedom from travel-stain, and general neatness and appearance, to be the competing points.

Best 10 pounds of liquid extracted honey, quality and manner of putting up for market to be considered.

Best 10 pounds of granulated honey, quality, including fineness and smoothness of grain, and manner of putting up for market, to be considered.

Best 10 pounds of beeswax, color, texture, and beauty of the cake or cakes in regard to shape, to be considered.

The most important, late apicultural invention that has not before been awarded a premium.

If there is some other object upon which a dealer would rather offer a premium, he is at liberty to do so. If you prefer, you can simply say what you can offer, (and please make it as liberal as you can, that we may have a big display), and then allow me to place the premiums as seems best.

W. Z. Hutchinson, *Sec.*

Advertising Queen Bees

Much of what we have said in another item about advertising honey for sale, applies equally to selling queen-bees. Undoubtedly there are many who rear their own queens, and have some very superior ones, whose bees are wonderful nectar-gatherers, that never have thought of offering them to their fellow-bee-keepers.

The queen-business is getting to be a very important one—more so every year. There are many every season who feel the need of improving their bees by introducing new blood. They will be glad to purchase something good, if they only know where to get it, and also be assured that it *is good.*

We would not urge everybody to go into the queen-rearing business, any more than we would urge everybody to go into bee-keeping. But there must be many who now are rearing good queens on a small scale, that would find it profitable to enlarge their capacity, and go after the business that they could have by making a sincere, legitimate effort to get it and to give satisfaction.

Northern Illinois Convention

The annual meeting of the Northern Illinois Bee-Keepers' Association will be held in the Court House in Rockford, Ill., Tuesday and Wednesday, Oct. 20 and 21, 1908. All interested are invited to attend. B. Kennedy, *Sec.*

Cherry Valley, Ill.

Illinois State Convention

The Illinois State Bee-Keepers' Association will meet Nov. 19th and 20th, at the State house in Springfield. We may have no program except what will be made up by the best of our bee-keepers—which is always better than a set program, if those present are alive to their opportunity.

The Illinois State Bee-Keepers' Association has made arrangements with the State Board of Agriculture to have bees handled in cages at the State Fair. In one cage, for the purpose, a foul-broody hive will be shown up. Louis Werner, of Edwardsville, will do the manipulating. Jas. A. Stone, *Sec.*

Rt. 4, Springfield, Ill.

Western Illinois Convention

The Western Illinois Bee-Keepers' Association will hold their annual meeting in the County Court room at Galesburg, Ill., on Friday, Sept. 18, 1908. All interested in bee-keeping are earnestly requested to attend, and help make this a rousing meeting.

Altona, Ill. W. B. Moore, *Pres.*

Kansas State Convention

The annual meeting of the Kansas State Bee-Keepers' Association will be held in Hutchinson, September 16 and 17, during the State Fair. It will be an important meeting for all who are interested in bees, and those who attend can also see the biggest fair ever held in Kansas.

P. R. Hobble, Pres.

Dodge City, Kan.

Conducted by EMMA M. WILSON, Marengo, Ill.

Death of Mrs. Amos.

When Mrs. A. L. Amos was mentioned so short a time ago as one of the leading introducers of yellow sweet clover, there was little thought that the announcement of her death was so soon to follow. But her important place in the ranks of the sisterhood is thus soon made vacant, her death occurring July 25, 1908. In a future number we hope to say more about our departed friend.

Buying Queens — Removing Honey from Hives.

Is it too late to order a queen-bee? If not, ought I to get a colony with it to insure success? If I just get a queen and put her into a hive, will it do?

When should I remove the honey from the hives—what time in the day? Is it necessary to put oil-cloth on top of the frames for producing for home consumption—before putting boxes or frames on, and afterwards to prevent sticking to the cover? A friend does this, but some here do not.

(Mrs.) E. P. Day.

Bloomington, Ill., Aug. 14.

It is a very good time of year to get a queen now. You will have the advantage of having her thoroughly established for a full year's work next year.

It will be safer and less trouble to buy a queen in a full colony, but it will cost a good bit more. If you desire the additional increase, or if you do not care for the expense, better get the full colony. But if you have a colony with an undesirable queen, it will cost no more than a dollar to get an untested queen to introduce, and 9 times out of 10 your untested queen will be found all right.

We remove honey from hives at any time in the day when bees are flying. They resent interference least when they are busiest at work in the field. On some accounts a beginner may prefer to operate rather late in the day, but while bees are still at work in the fields. Then if any trouble occurs, as a start in robbing, night will close the scene.

It is not necessary to cover with oil-cloth for home consumption or any other consumption. Whether oilcloth or any other covering of a cloth kind is needed depends upon how hives and covers are made. Formerly more than at present there was a considerable space under the hive-cover, and some kind of a sheet or quilt was needed to keep the bees from occupying this space. Oftener, nowadays, there is only about a quarter of an inch between top-bars and cover, and no oilcloth is needed.

Lady Queen-Breeders — Introducing Cells and Virgin Queens.

I was much interested in Mrs. Bacon's article on page 202. I happen to know that she is not the only lady engaged in rearing queens. Some little time ago, while corresponding with some queen-breeders, one who had only given initials, wrote the whole name, because I was a woman and also I was writing to a lady. I cannot give her full name here as she does not give it, but the name with only the initials appears regularly in the advertising columns of Gleanings. I do not know why she does so, but the reason why *I* have done so is, that I shrink from being the only lady advertising queens, and I have a feeling that most men would think I could not rear queens as good as a man could. What do you think, Miss Wilson? Some people think women succeed better than men in raising chickens, because they pay greater heed to details, and certainly in rearing queens it is the details that count.

I have reared my own queens for a good many years, and I like the business better than honey-production, for it is not so heavy, and I am not very strong. Notwithstanding, I have one yard about 10 miles from home that I run for honey. In my home yard I rear queens, and I have another yard in a different direction that is my queen-mating yard. Pasturage for bees in scarce, and there are no bees there, so I am sure of getting the queens purely mated. Of course, I have to feed the drone-rearing colonies.

I cannot understand why Mrs. Bacon should have any trouble with her caged queens, for I like better to introduce cells than virgins to queen-mating nuclei, and use shallow extracting frame hoxes that I make myself for mating certain queens, and I like to have them pretty strong in bees. I do not have much trouble with robber-bees. Perhaps it is because of the way I manage. When honey has not come in, I have a hive away from the apiary arranged so that only two or three bees at a time can

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get in or out, and there I keep a frame of honey or some syrup. If by any chance the bees begin robbing, I just throw a small piece of mosquito-bar over the entrance, tacking the upper edge to the hive and cover, and holding it down at the sides with small sticks. This confuses the robber-bees and stops robbing. If it commences again after removing the mosquito-bar, I try to find the hive of the marauders and treat them in the same way. I can very soon break up the worst scrimmage that they can get into.

I start queen-cells in the strongest colonies I can get. I tier them on the Alexander plan for increase, and where the brood in the upper hive is about all capped, I remove the whole hive and queen, and use the upper hive with returning bees on the old stand to start cells.

I would like to hold a lady queen-breeders' convention, just to see who we are. Anyway, I have quite a feeling of friendship for them, and wish them all the best of success.

Allegan Co., Mich. EMILY H. HAFFORD.

If sisters are allowed to be bee-keepers at all, there is no good reason why they should not engage in queen-rearing, and successfully. It requires less strength than honey-production, and for the parts of the business that require delicate handling a woman's fingers are no clumsier than a man's.

We don't have any trouble with virgins dying in cages when more than one are in a hive, but there is some question whether the free virgin does just as well if the caged virgin is present before the free one has mated.

Others agree with you in preferring to introduce cells. At our house we prefer virgins. It is true that when cells are used you can reject any cells that do not look the best, but you cannot be sure what is in the cell. It may contain a dead or defective queen. If you use virgins instead of cells, you can be sure to have only those that are best in appearance. It is also easier to know exact age when virgins are used. But there may be advantages on the other side.

This department is open for that meeting of lady queen-breeders.

Mr. Scholl Congratulated.

Congratulations on your fine crop, Mr. Scholl. Pretty good—for a man!

Starting with Bees—Transferring.

Early last spring we bought a colony of Italian bees for $5. They were in an old-fashioned hive, and as we know nothing about bees, we have not been able to see the inside, and do not know whether there is, or was, any honey in the boxes. We have "Forty Years Among the Bees," but it does not tell the beginner just how to proceed. We sent for a new 1½ story hive with one-inch starters, to be ready for a swarm, but so far as we know the bees have not swarmed; neither have the bees of Mr. Osborne, from whom we bought our colony.

Do you think it advisable to put the bees into the new hive? If so, how are we to do it?

There are no other bees near us, but there is plenty of white clover. We do not care to go into the business extensively. Still we want enough honey for our own use and some to spare. Our bees are quite cross, but they seem to be busy. (Mrs.) E. W. GRIFFING.

Amagansett, N. Y., Aug. 6.

You say your bees are in an old-fashioned hive, and you haven't been able to see the inside. That probably means the hive is a box-hive, in which case there is no chance to see the inside. To do that they should be in a movable-frame hive. But the season is now so far advanced that it may be best to leave them where they are till next year. Then you may transfer them into a new hive during fruit-bloom, although the plan preferred nowadays is to wait till they swarm, hive the swarm in a new hive, setting the 2 hives side by side as close as possible, and then 21 days later cut up the old hive, unite the bees with the swarm, and melt up the combs.

In the meantime it will pay you well to get one of the regular bee-books, such as are advertised in the American Bee Journal, for the information therein contained may be worth several times the cost of the book in a single season. There are those who think "Forty Years Among the Bees" one of the best books published, but Dr. Miller claims that it was not intended to supersede any of the regular books of instruction on bees, but to supplement them.

Although it is not advisable just now to do anything about getting your bees into another hive, it is very decidedly advisable for you to see about those boxes you mention. If there has been anything like a fair flow of nectar from the flowers, those boxes are crammed full of honey, and like as not so much honey has been packed in the brood-chamber that the queen is crowded for room. The result of that might be that you would have a hive very heavy with honey but so weak in bees that it would not survive the winter.

First, get a bee-smoker. If you cannot wait for that, make a smudge of burning rags, blow smoke into the hive entrance, pry up the boxes, blowing smoke into the crack as you pry up, and take the boxes off. Replace with empty boxes. Put the boxes into a tub, cover with a sheet, and occasionally turn the sheet over to let the bees out. Of course this will be outdoors.

Maybe you have had no flow of honey, in which case the boxes will be empty and there will be nothing to be done.

Transferring Non-Swarming Bees from Box-Hives.

Frequently, when giving directions for transferring bees, Dr. Miller says it is best to *"wait until they swarm,* hive the swarm in a new hive, setting the two hives side by side as close as possible, and then 21 days later cut up the old hive, unite the bees with the swarm and melt up the combs." But my bees don't swarm. I have been *waiting* now for several years to transfer those pesky bees from the box-hives. If they don't swarm, why *wait* longer? What shall I do? (Miss) SUSAN SWEETSOME.

Posey town, Ind.

You are to be congratulated, and ought to be all swelled up with pride that you have bees that will not swarm. Many of the veterans would give dollars to an insurance company that would insure their bees against swarming.

There may be three reasons why your bees do not swarm. The first is that the season may be so very poor that they can not afford to swarm. Since your case has continued "for several years," that can hardly be the reason.

Second, your hive may be extra large. In that case you might cut off the lower part next spring, making the hive smaller. If filled with combs, the lower part of the combs will be empty in spring, and hive, combs and all, may be cut away. Cut down to a size that will contain less than a cubic foot, and that will likely result in swarming, *if* too large a hive has been the trouble.

Third, your bees may be of the kind that don't believe in swarming. If so, be thankful, and transfer them in fruit-bloom next spring. In any case, no matter what the cause of their not swarming, you can transfer at that time. Your bee-book will give you instruction as to transferring. Briefly, it is to drum out the bees, cut up the hive, cut out the comb, and fasten all straight worker-comb in frames. Or, you may drum out part of the bees, making sure to get the queen, put them into a hive filled with worker-foundation, set the hive on the old stand, putting the old hive close beside it, and in 21 days, when all worker-brood has hatched out, cut up the old hive, add the bees to the first lot, and melt up the combs.

Storing in Brood-Frames Instead of Supers.

I have a colony that won't work in the super. It is filling up the brood frames with honey in fine style. I find eggs in some of the empty cells that are left, which show that they have a queen all right. Also there is some brood. Can it be that the queen is getting tired, or petering out?

Recently I took out several of the combs and with a dining-fork scored them on both sides, breaking the cell-cappings. Will this cause the bees to "get a hump on themselves" and hustle the honey upstairs into the super? If not, what can I do? How would changing the queen do?

Clifton Place, Ill. GEORGIANA PROCTOR.

As the season advances, less and less space in the brood-chamber is occupied with brood, and more of it with honey, until perhaps September or October, when laying will cease. But if this one colony is restricting its brood while other colonies have plenty, there is something at fault, and it is time for you to have a hand in it. There is more likelihood of this restricting if section-supers are on than if extracting-supers are used. The likelihood is that the queen is at fault—almost certainly that is the case—and the thing to do is to replace her with a young and vigorous one.

Breaking the cappings may do some good, but not likely.

Changing the queen is not likely to have much effect on this season's yield, for the new queen's progeny will not go afield under 5 weeks, but it would do good for next year. If, however, the queen has been a good one, and is petering out merely because old, very likely you don't need to do anything, for the probability is that the bees will supersede her about the close of the harvest.

I DO the very best I know how—the very best I can; and I mean to keep doing so until the end. If the end brings me out all right, what is said against me won't amount to anything. If the end brings me out wrong, ten angels swearing I was right would make no difference.—*Abraham Lincoln*

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Conducted by LOUIS H. SCHOLL, New Braunfels, Tex.

Horsemint and Yellow Sweet Clover.

EDITOR SCHOLL:—How is horsemint planted, and when is the time to plant it? It is one of the best honey-plants in this locality.

Also, what is the best way to plant yellow sweet clover? It grows well here, but it is hard to get a stand of it. I have just one stalk, which reached a height of 5 feet. Although there was a good flow from horsemint, the bees were working on this plant all the time. H. L. RUSSELL.

Lone Oak, Tex.

Horsemint is a good honey-plant here, too; especially this season it has again for the first time for years given us a good yield of honey.

It is hard to tell how horsemint seed should be planted. Judging from the seasons and other conditions it seems as if even Nature does not know how to plant it—that is, if we look at it that way—for there will be many years when no horsemint shows itself. Then we have no horsemint honey for several years. All of a sudden we again have a good crop of it, like the present season here.

Much depends upon the seasons; and with horsemint it depends very much upon the previous fall. Last fall and winter were wet ones. This brought up the young plants in the fall, which is the time it should come up to give results the following May. If we have a dry fall and wet winter, which brings the horsemint up in the spring, it will bloom, but hardly ever yields honey.

So, if we consider these things it is hard to know how to proceed, and I must for once do like Doctor Miller, and say, "I don't know."

It is exactly the same with the sweet clover here. Besides the above named conditions, the different soils, and the atmospheric conditions, must be considered. I have somtimes succeeded in getting a good start of sweet clover here by trying to imitate nature as much as possible, and by sowing in the fall, much like the seed falls to the earth from the mature plants, to come up again of their own sweet will. During the season it must be cultivated to keep through the drouth for best results.

To the Texas Bee-Keepers.

It is the purpose of the more progressive bee-keepers of our State to protect ourselves against the ravages of foul brood, and in consequence it was decided to agitate this matter, at our last meeting of the Texas Bee-Keepers' Association, in July.

The result was that committees were appointed, and it was decided that an annual appropriation of $3,000 should be asked for at the meeting of the next Legislature, in January next.

A Legislative committee, consisting of F. L. Aten, chairman, T. P. Robinson, and the Secretary, was appointed, whose duty it shall be to look after this matter. This committee has begun work, and will meet from time to time, but it must have the help of the bee-keepers. In consequence the following letter is being circulated:

NEW BRAUNFELS, TEXAS.

BROTHER BEE-KEEPER:—Foul brood is breaking out in almost every part of our State. I have hundreds of letters from north, central, east, south and southwest Texas, asking for help. Foul brood has come to these places and the apiaries are threatened. Nothing can be done for the bee-keepers as there is no money to do it with. Your bees are threatened. We need a State Inspector to look after our interests, so that the bees are protected and saved from destruction.

We have a foul brood law but no money for an inspector. Our Association has taken the matter up and will go before the next Legislature to obtain an annual appropriation for carrying out this work. But your help and cooperation will be needed. You need to become stirred up about the matter, and stir your neighbors up. Every person who has the bee-keeping interests at heart should not fail to do his utmost toward getting this necessary appropriation from the Legislature next January.

Begin now. We must combat foul brood or suffer. This is a worse scourge than many suppose, because they have had no experience with it. Find out all you can about it. It may save you hundreds of dollars. It may break out in your neighborhood, if not already there, and you know nothing about it until too late. So let us all strive for an appropriation, a good inspector, thorough inspection, and save our bees.

Let me hear from you about this most important matter. Write me if there is or has been foul brood in your neighborhood. Do not be afraid to do this. It will all be confidential. It will help me to plan ahead and lay out the work for inspecting later when we get an inspector. Help the Association's efforts in this move by being an earnest member, and by doing your part by it.

Texas is now the leading honey-producing State, so let us keep her there.

Yours very truly,
LOUIS H. SCHOLL,
Secretary Legislative Committee.

The 1908 Bee-Keepers' Exhibits.

Great preparations are being made to make this year's exhibits of apiarian products in Texas greater than ever before, and there is no doubt but that this will be done, as there is much good material this year. The season has been very favorable, and the bee-keepers are in better shape than for a long time.

Good premium lists have been arranged for, the one of the State Fair having been enlarged in several places.

The dates of our two leading fairs are Sept 26 to Oct. 11, for the San Antonio International Fair; and Oct. 17 to Nov. 1, for the Dallas State Fair. This will enable exhibitors to take their stuff from one to the other of the two leading fairs of the South. The premium list of the State Fair at Dallas is appended here, and is worth going after:

All articles entered for competition in this department must be delivered at the Fair Grounds on or before Friday, October 16, 1908.

All correspondence regarding information about exhibits, space, etc., in this department should be made to Louis H. Scholl, Secretary-Treasurer and Chairman of Committee on Exhibits, Texas Bee-Keepers' Association, New Braunfels, Texas.

Golden Italian Bees and Queen in single-comb observatory hive	$5.00	$3.00
Three Banded Italian Bees and Queen in single-comb observatory hive	5.00	3.00
Carniolan Bees and Queens in single-comb observatory hives	5.00	3.00
Caucasian Bees and Queens in single-comb observatory hives	5.00	3.00
Cyprian Bees and Queens in single-comb observatory hives	5.00	3.00
Holy Land Bees and Queens in single-comb observatory hives	5.00	3.00
Banat Bees and Queens in single-comb observatory hives	5.00	3.00
Black Queen and Bees in single-comb observatory hives	5.00	3.00
Best display of Bumble-Bees	5.00	3.00
Best display of Ground Bees	5.00	3.00
Best and largest display of various races in observatory hives	10.00	6.00
Best and largest display of Queens of various races in mailing cages	5.00	3.00
Best case of White Section Comb Honey, 12 lbs. or more	5.00	3.00
Best case of Light Amber Section Comb Honey	5.00	3.00
Best and largest display of Section Comb Honey	8.00	5.00
Best display of special designs of Comb Honey	5.00	3.00
Best 12 lbs. friction-top pails White Bulk Comb Honey	3.00	2.00
Best 6 lbs. friction-top pails White Bulk Comb Honey	3.00	2.00
Best 3 lbs. friction-top pails White Bulk Comb Honey	3.00	2.00
Best display of Bulk Comb Honey	10.00	6.00
Best dozen jars White Extracted Honey	3.00	2.00
Best dozen jars Light Amber Extracted Honey	3.00	2.00
Best display Extracted Honey, granulated form	5.00	3.00
Best and largest display of Extracted Honey	10.00	6.00
Best sample cake of bright yellow Beeswax, not less than 2 lbs.	5.00	3.00
Best display in special designs in Beeswax	5.00	3.00
Best and largest display of Beeswax	8.00	5.00
Best display of Fruit preserved in Honey	5.00	2.00
Best Honey-Vinegar, with recipe	3.00	2.00
Best collection of Texas honey-yielding plants, pressed and mounted	5.00	3.00
Best instructive display in apiarian products and of the various uses made of honey and beeswax	20.00	10.00
Best and largest display of Bee-keepers' Supplies	Diploma	

Getting New Subscribers

This should be a good time to get new subscribers for the American Bee Journal. On another page we offer a number of premiums for such work. We hope that as many of our present readers as possible will help us to increase our subscription list. The more intelligent bee-keepers are, the better it will be for all interested in the business. And much of that intelligence is secured by reading. We will be pleased to send free sample copies on request. Shall we not be favored with a large increase of new subscriptions during the next 2 or 3 months?

Apiarian Pictures

We would be glad to have those who can do so, send us pictures of bee-yards, or of anything else that would be of interest along the bee-keeping line.

American Bee Journal

Bee-Hives for the Business-Man

BY C. P. DADANT.

I am a very busy man, keep a store, and live in the suburbs of the city. What style of hive would you advise me to use under the circumstances?—City Bee-Keeper.

There are many men in exactly the same circumstances as you are—doctors, lawyers, teachers, ministers, men who may keep bees—to whom bee-culture is a recreation and an addition to the income, but who cannot afford to remain at home to look after the bees, and must work with them at odd hours and trust them to themselves during the remainder of the time. To these men I emphatically recommend large hives and the production of extracted honey. I lately visited two amateur bee-keepers, the first one using the 8-frame Langstroth hive with section supers, the other using a very large brood-chamber with the Dadant system of shallow extracting supers.

In each case I enquired about the results of the clover season. Said the 8-frame hive man:

"I had 10 colonies to begin the season, and now have 36. I don't know how many swarms I had, but I filled all the empty hives that were in my reach, and then began to put the late swarms—small swarms they were—two or three together in each hive. I had late swarms that did not weigh over a pound or two."

"How much honey did you harvest?"

"I took 95 full sections, and think I have about that many full on the hives yet. I would like the bee-business very well if it was not for the excessive swarming."

The other man said: "I had 3 colonies to begin the season. They have not swarmed. I put 2 supers on each of them. I have supers with the combs already built which I preserve from one year to another, and if they are put on early enough I have but little fear of swarming. When I want increase (which I do not desire, because of lack of room), I make artificial swarms by division and queen-introduction."

"How much honey have you harvested?"

"I have taken off 200 pounds of extracted honey, and there is about the same quantity in the supers now."

The above are not isolated cases. They represent the average of happenings with colonies under the different systems. The man with small hives is pestered with swarms whenever the season is good, because his bees are crowded for room for breeding. When they once have the swarming fever it is difficult to cure, and they swarm themselves to death. On the other hand, colonies in large hives, in which the queen is not crowded for laying room, produce a large number of workers—they become very populous; but if supers full of empty combs already built are furnished to them in time, there is no desire for swarming, except in the cases of supersedure, which are in only a small percentage of the number of colonies. Swarming is thus checked and reduced to the lowest possible minimum.

The busy man will readily understand that it is much more profitable to follow the latter plan. There is no need of watching the bees, during the swarming season, for the number of swarms that may escape is insignificant. But there is another advantage: The bees in large hives have a greater storing capacity for honey, not only in the supers, but in the brood-chamber as well. If they are permitted to retain all the honey that the brood-chamber contains when fall comes, they have a very much more certain prospect of safe wintering than the colonies whose hives, being of reduced capacity, are both less populous and less provided with food. If swarms issue from those large hives, they are exceedingly strong, and therefore much better prepared to fill their hives, than are the insignificant swarms which often issue from small hives.

Lastly, while a large hive may easily be reduced to the needs of a small colony, by the use of division-boards or dummies, a small hive cannot be enlarged at will to suit the very largest colonies.

My advice, therefore, to those who keep bees as a side-issue, and cannot give them more than a few spare moments at special hours, is to use very large hives and the extracting system. Empty combs are the wealth of the apiarist; they enable him to produce large crops with a limited number of colonies, and these combs may be saved from year to year with great profit.

"Honor to whom Honor."

Mr. Editor, allow me to digress from the subject of this article to criticize the plagiarism and pilfering by different writers. This seems to take place in Europe fully as much as in America. Last year, I wrote an article for the Swiss Bulletin De La Societe Romande, in which I criticized a certain writer who claims that the young queen and not the old one goes with the first swarm. I cited 23 different writers on this subject, all authors of books on bees. It appears that the "Rucher Belge" reproduced my article without giving credit, as the matter is mentioned in Gleanings for July 15, credited to the "Rucher Belge," and the names of the writers quoted by me are mentioned in it in exactly the same order as I had given them.

It is certainly a matter of congratulation that my studies are considered sufficiently valuable to be quoted, but courtesy would seem to require giving each man due credit, and the "Rucher Belge" is evidently at fault in this instance.

Hamilton, Ill.

Dry as a Chip

BY RALPH BENTON.

How many times have we uttered the words, "Dry as a chip," when we have disappointingly gone to the bread or cake tin in the pantry only to find a whole half cake dried out and unappetizing? Or perhaps we have put up a fine lunch in the morning to find that at noon time when we have come to lay out our cake at the family picnic, it is almost spoiled by its long jaunt over the hills.

Our baker friends have long known of a way of preventing the coming about of these calamities, and that in a most economical way. You perhaps as a child remember having eaten with a relish when going to the bake-shop on an errand, those animal cakes, large, thick, ginger cakes that are always moist and fresh no matter how long they may have lain in the shop window? Well, the "trick of the trade" the baker here brings into play to keep his articles fresh, is the use of honey in his cakes. For the lighter cakes light and mild honey is used, and for the heavier and coarser cakes, the dark, strong-flavored honeys, such as buckwheat honey, are used, bringing with its use that rich flavor of the cakes the children like so well.

By this we do not mean that honey should be indiscriminately poured into every combination of rich cake, but there are a number of excellent receipts for using honey in gems, cookies, fruit cakes and layer cakes, all of which are worthy of investigation by the thoughtful and careful housewife. The receipts are too long a list to be detailed here, but can surely be easily gotten somewhere. Try the bee journals or the producer of the honey sold in your locality. The grocer may not know the receipts, but he will probably be glad to give you the name of his honey producer. It is worth investigating, we believe.—National Bee-Keepers' Association.

Uniting Bees—Feeders and Feed

BY G. M. DOOLITTLE.

A correspondent wishes to know, through the columns of the American Bee Journal, how it would do to unite 2 weak colonies of bees for winter.

This is the proper thing to do, for 2 weak colonies kept separate, will consume nearly twice the stores which both would united, and very likely perish before spring, while, if put together, they

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would winter as well as any large colony. A good way to proceed is as follows:

If one of the queens is known to be feeble or inferior in any way, hunt her out and kill her, so that the best queen may survive; otherwise pay no attention to the queens, for one of them will soon be killed after the uniting is done.

Having the queen matter disposed of, go to the colonies you wish to unite and blow smoke quite freely in at the hive-entrances, pounding on top of the hives at the same time with the doubled-up fist. When both have been treated in this way, wait 2 or 3 minutes, and then do the same over again, only smoke them a little less, and pound a little longer and more vigorously. This will cause every bee to fill with honey, and the fuller they are the better our success.

After waiting 2 or 3 minutes after the last pounding, if there is any difference, carry the weaker of the 2 to the stronger, setting it down right close beside it. Now proceed to open up both hives, and select out the combs from each which contain the most honey, putting these together in the hive which was not moved. In thus putting in, it is always best to alternate the frames, whereby the bees are so mixed up that they have no desire to quarrel, although causing them to fill completely with honey generally takes all fight out of them.

Then, this mixing is calculated to make each bee that touches another a stranger, and thus either colony's identity is broken up, and the bees are so bewildered that it causes them to remark their location on their first flight afterward.

After the hive is filled with the combs having the most honey in them, close the hive by putting on the cover. Now put a piece of wide board up against the entrance, so that the bees can run from the ground right up into the hive, and proceed to shake the bees off the remaining frames, taking first a frame from one hive, and then from the other, thus mixing the rest of the bees as the first were, seeing that every bee is out from the old hive before you put the combs back in again. Failing here, it is possible that you may lose the queen, where one of them has been killed, as some queens, especially those of the black race, will often run into the corners of the hive during such an operation.

After all the bees have gone into the prepared hive, set a board up in front of it, having the bottom out 4 or 5 inches from the entrance, and the top leaning against the hive, so that the next time the bees fly they will bump against it, thus causing them to mark their location anew, should any otherwise fail of doing this through the mix-up they have had. In this way, none of the bees will return to their old stand to get lost there, as would be the case were they not caused to fill with honey, nor any board set up. Then it is best to remove all relics of the old hive and stand, so there is no home-like look about the old location to entice them back. Put the now beeless combs away in some safe place for the next season's use, and the work is done.

Bee-Feeders.

There are many feeders on the market, and for sale by supply dealers, but should it happen that you would rather make your own, here is something I have used for years with the best of satisfaction:

Get out 2 pieces of thin board, ⅞ to ⅜ thick, having them the size of the frame less ½ inch at the top. Nail these, one on each side of the frame, fitting the joints together with white lead, so as to prevent any leaking. If, after making, hot beeswax is run all over the inside, there is no possibility of leaking, and all soaking of the feed into the wood is prevented, and through this all danger from the feed soaking and souring the wood is done away with.

Bore a hole through the top-bar for a funnel to slip in, and the feeder is ready to be hung in the hive the same as a frame at any time you may wish to feed; and it can be left there also when not in use, if so desired.

As most of the hives in use have a quilt, cloth or enameled cloth, over the frames, all we have to do to fix for feeding is to cut a little slit in the cloth to correspond with the hole in the top-bar of the feeder, through which the point of the funnel is to be inserted and the feed poured in. When the funnel is removed, the slit in the cloth closes up so that no bees can get out to annoy the operator.

As the feeder is only an inch wide, there is no need of a float, as the bees can easily reach either side, so none stick fast in the feed and drown, as they do in large-mouth feeders not provided with a float.

Feed for Bees.

The same correspondent that wished to know about uniting, wanted to know about feeders and what to use in them for feed, so that all colonies short of stores for winter might be fed up in the fall. There are several ways of making feed for bees from sugar, but I will tell of the one which I consider best, after having tried all of the others.

The sugar used for winter stores should always be granulated sugar; but for feeding in the spring or summer any of the "C" sugars are just as good.

To make a feed for winter, I find the following formula the best, after trying nearly all the different ways recommended:

Put 15 pounds of water into a vessel that will hold about 24 quarts, setting the same over the fire until the water is boiling nicely. Now pour in 30 pounds of granulated sugar—pouring in slowly and stirring the whole as poured in, so it will dissolve instead of settling to the bottom of the vessel and burning on, as would be the case were the whole poured in in a body.

When the sugar is dissolved, allow it to stand over the fire until the whole boils again, when 5 pounds of extracted honey is poured in, and the syrup stirred until it boils once more, when it is ready to set from the fire. This gives 50 pounds of feed of about the consistency of honey, and as soon as it is cool enough so you can hold your hand on the outside of the vessel containing it, it is ready to pour into the feeders.

The honey is put in to prevent the sugar crystallizing again, as will be the case without it, when such thick syrup is fed in cool weather in the fall. Where sugar syrup is fed in warm weather, and the syrup is quite thin the bees will change it over into honey so it will not crystallize, if it is fed slowly; but this cannot be relied upon when thick syrup is fed for winter stores.

Borodino, N. Y.

Beeswax and Digestion—Increasing Demand for Honey

BY DR. C. C. MILLER.

Dr. Bohrer, page 241, takes exception to my saying that the indigestibility of beeswax probably does no harm in any case. All right, old friend, I cheerfully accept the amendment, and agree that in cases of cancer of the stomach, as well as in some other cases of exceeding irritability, beeswax better be left out of the bill of fare. More than that, if you insist that there may be cases in which the best extracted honey may do harm, I'll agree to that, too.

Begging your pardon for having been so careless as to say, "Probably in no case does that do any harm," instead of saying, "Probably the cases in which that does any harm are very rare," I arise to make a few remarks upon the latter part of your article. In substance you say, "The facts I am giving—and there is no guessing in the matter—if made known to the public, can bring no harm to the sale of the products of our industry, but on the contrary will increase the sale of honey beyond any demand heretofore known."

To secure that unprecedented demand, would it not be well to have what you say embodied in a short article and have the publication committee of the national secure its general publication? Without taking the time for elaboration, I might suggest that the pith of it would be somewhat as follows:

"Pure honey free from all sources of irritation to the human digestive organs is by all odds the most wholesome sweet ever used by man. There are two sources of irritation to be guarded against:

"First: The poison scattered over the combs, which bees invariably expel upon the slightest jar or disturbance of the hive; although only a very few persons are susceptible to its influence.

"Second: The wax of which the honeycomb is made. It acts as an irritant to the digestive organs. But as a rule, in time it will bring about disastrous results. Men use intoxicants to excess through a long life, while very many others fall victims to their effects in a very brief period of time. And so it is with beeswax.

"Extracted honey is free from both these objections, the honey being entirely separated from the comb, and also from the poison scattered over the comb."

There, doctor, isn't that about the thing? Looks like a pretty good anti-

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dote to the article of that man McCain immediately preceding you on page 241. His proof-of-purity seal doesn't stand a ghost of a chance against the poison-tainted-wax business. No use disputing it, when that article of yours gets the

Apiary of Roy D. Tait, in Colorado.

run of all the papers, I'll have to give up production of comb-honey and invest in an up-to-date extractor. It's hardly like you to pull others down for the sake of pulling yourself up, in other words, knocking out my market for comb-honey so you may better sell extracted; but I'm willing to stand it and change to extracted honey if by means of your pronunciamento "the sale of honey will increase beyond any demand heretofore known."

Really, however, doctor, I must confess that it isn't very clear to me just how the proposed spread of information is to increase the sale of honey. Tell a man that the bees scatter poison over the comb, and will he have a consuming desire to buy more honey than before he ever heard of such a thing? Tell him something about intoxicants, "and so it is with beeswax," and will he feel it a matter of principle to patronize the bee-keeper? I don't see the connection, do you?

If you don't mind, I'd like to ask a question or two. How do you know that bees invariably expel poison upon the slightest jar or disturbance of the hive? And how does it happen that the poison thus expelled is "scattered over the combs," and none of it gets into the honey? For one would naturally think that just as much poison would get into an open cell of honey as would settle on the capping of a cell. Doesn't the liquid condition of the honey favor the absorption of the poison rather more than the solid cappings? And when the limited amount of honey obtained from the cappings is fed back to the bees, as you say, how can you be sure that they will not put it into the surplus?

There are those who prefer extracted to comb honey, and I suppose you know that some very much prefer comb honey. Now suppose you get these latter shunted off from buying comb honey altogether, are you sure they will buy just as many pounds of extracted as they have been buying of comb? In short, please tell us *how* the spread of your "facts" is going to "increase beyond any demand heretofore known" the sale of honey.

Marengo, Ill.

Bee-Keeping and Vegetable-Growing

BY ROY D. TAIT.

You see by the pictures I send that we combine vegetable-growing with bee-keeping, both on the intensive plan, rather than the extensive.

Our farm consists of 5 acres, and our apiary of 23 colonies of bees, of the mixed variety, but mostly hybrids, and noted for their hustling qualities, also their willingness for a scrap, which they will begin at the least provocation. However, no better honey-gatherers ever flew than these bees, and as long as they "deliver the goods," and "board themselves," I will put up with their stings, for with "all their faults I love them still."

Here in this Grand Valley, of ours, where our main honey-flow is from alfalfa, we can manage these cross bees to a better advantage than our brothers in the East. We know to a day when the flow begins, also when it will stop, and we can work accordingly.

You can get some idea of how vegetables grow in this country by the picture of our market wagon, which makes from 3 to 5 trips a week into Grand Junction, with honey and vegetables. Our honey is carried in the wagon in regular supers with the division-boards between the sections, so no matter how many sections are in the super, they all stand upright and never tumble over by the jolting of the wagon.

It is really a pleasure to peddle in this way, for we have a good class of customers, carry a first-class article in honey, vegetables, and fruit, and get a good price for our goods. We do not have to hire any outside help, and make a good living and something more.

The outlook for the summer is fine for the alfalfa. Men say that they will get the fourth cutting this year, which means 4 honey-flows for us.

We take the American Bee Journal and another bee-paper, and if I kept only one colony of bees I would take them. I don't know but I would take them if I did not keep a bee, for as long as we have been taking these 2 papers, we have never yet seen an article in either about the other but what was complimentary, and—oh, well, we just like to read them, that's all; for in no other papers do we get the writings from such a corps of Christian writers, and they are doing good in more ways than one.

Mesa Co., Colo.

Honey and Vegetable Wagon of Roy D. Tait.

Queens and Queen-Rearing

BY GRANT ANDERSON.

There has been much of late in the bee-papers concerning the rearing of queens, mostly written by men not qualified to write on that subject. I deem it best, therefore, to inform the readers of the "Old Reliable" that the au-

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thors of some of these articles are not sufficiently experienced on queen-rearing to write about it. It is a fact that there are some so-called breeders that are unworthy of the name, and are a hindrance to the better class of breeders. It is not true, however, that all, nor even the majority, are unreliable. As a breeder I find that ignorance on the part of many who buy queens is the cause of much complaint against the breeders.

Mr. Jones buys a queen from Mr. Smith. The queen arrives in good condition. Mr. Jones makes his colony queenless and puts in the cage containing the new queen. The queen is killed, and a worthless hybrid reared in the hive. Of course Mr. Jones is not satisfied with his queen. I have had letters complaining that the queen and fully half of the bees were mismated!

There are about one-half of the men who buy queens that don't know the difference between an untested, a warranted, and a tested queen. Then when the word "select" is added, the confusion is greater.

When the breeder sells a select untested queen he is supposed to use his best judgment and select out of a number of queens one that he has reasons to believe is better than the average of the number selected from. So the man who buys untested queens from a breeder who sells select untested gets what is left after the best has been picked out.

A warranted queen is an untested queen warranted to be purely mated and a good, prolific layer. If she does not prove to be so the breeder is supposed to replace her with a queen that fills the bill.

It is surprising how freely many beemen expose their ignorance of queen-rearing by writing for publications and speaking in bee-keepers' conventions.

If these same men attempted to explain the workings of wireless telegraphy and missed it so far as they do queen-rearing, some one might say, "What fools these mortals be."

Many readers of the papers remember that a certain bee-man told us through one of the bee-papers that he was prepared to explode the theory that the mating of the queen does not affect her drone progeny. Well, we have waited quite a while for the "explosion," and all we have heard so far was the explosion of his ignorance. Who is next?

Sabinal, Tex., July 2.

Alfalfa for Honey and Hay

BY DR. G. BOHRER.

Having had an experience in growing alfalfa for hay, and watched with interest its honey-yielding qualities upwards of 20 years, I feel warranted in saying without hesitation that for both purposes it outstrips by far any and all other crops produced in Kansas. Provided, however, that it is cut at the proper stage of development, is properly cured, and properly stacked or put away under shelter. The latter is the best. Quite a number of farmers cut it when about one-tenth of it is in bloom. Experience has taught me that when about ¾ to ⅞ in bloom is a better time to cut it, as it is much more easily cured, and by far less liable to heat in the stack or mow and become musty. In a musty condition it is not at all fit to feed to horses, as it often causes heaves.

The earlier it is cut after it begins to bloom the more sap there is in the stalk, hence the greater difficulty in curing it properly. I find that to cut it during the forenoon after the dew has gone off, and raking it up into windrows after about 4 o'clock in the afternoon of the same day, and the next day after noon putting it up in rather small piles, and then letting it stand another day or two, owing, of course, to the favorable or unfavorable conditions of the weather for drying hay—this seems to be the best method of harvesting this crop. For by this course it not only affords the best hay, but it also furnishes more forage for bees.

But just here I am told that as I have bees, I have an ax to grind. In

Alfalfa in Bloom.

reply I will say that I have also the usual different kinds of domestic animals on my farm, and while I want the best results possible to be obtained from my bees, my other stock is by far the greater source of income. Hence my ax-grinding, if I have one to grind, would, under the circumstances, very naturally lead me to look most after my greatest source of income.

Like all other nectar-yielding plants, alfalfa does not invariably yield honey. Some days very few or no bees visit it, while on other days they work on it from one to 3 hours. And sometimes I have seen them very busy from daylight until dim twilight, the bees coming in and dropping down on the hive on the ground, or on the alighting-board, about exhausted from being heavily loaded with honey.

I am now relating my experience with this plant in Kansas. What it will do in some other States, I don't know. I have seen it growing in Ohio. But as to its nectar-yielding qualities there, I know nothing. But I am disposed to think that some seasons, and in some localities, it will produce nectar in that State.

It may be, and is, sowed in either the spring season after frost, say about the first of May, or in August if grasshoppers are not very numerous. If they are they will destroy it. It has a root that will grow down as deep as 25 or more feet, if not prevented by hard-pan or rock. After passing successfully through one winter it will not be pushed out of the ground by frost, as its roots go far below freezing. In Ohio and other Eastern States the soil heaves to such an extent as to push red clover out of the ground so far as to destroy it. Alfalfa I think will not perish through such a cause.

Alfalfa here in Kansas is cut from 2 to 4 times each year, and I have known it to yield as high as 11 tons in one season from 4 cuttings, per acre. But the average is probably from 5 to 6 tons.

Seed-Bed for Alfalfa.

For August sowing I find that to disc oat-stubble immediately after the oat-crop has been harvested, so as to keep it free from weeds and crab grass, etc., until the time arrives to sow the seed (which should be from the 10th to the 12th of August) is about the most satisfactory method of preparing the seed-bed. The soil must in all cases be self-draining, so that water will not stand on it, for alfalfa will perish under water in 2 or 3 days.

For spring sowing, corn-stalks ground that was well cultivated and kept free from weeds will be found as good as, or better than, any other ground. The stalks should be cut with a stalk-cutter and the ground should be stirred up with a disc. Deep plowing has not given as good satisfaction as thorough surface stirring of the soil with the disc.

Different quantities of seed per acre have been sowed, ranging from 10 to 60 pounds per acre. If the seed is good and free from weed and grass seed, 15 pounds per acre will be sufficient. As good a stand as I ever had I got from 11 pounds per acre. I had aimed to sow 15 pounds, but after I had sowed the seed I stepped the ground and found that I had sowed only about 11 pounds per acre.

The surface should be well leveled by the use of a common harrow, so that the seed will be planted about the same depth, for if part is dropped into low places it is often covered so deep that it never comes up. To cover the seed when sowed broadcast by hand, I find a brush drag, a tooth harrow with the teeth as slanting as possible, or a drag made of 1 x 10 lumber, to answer the best purpose. Harrow teeth set perpendicular put much of the seed so deep in the ground that it can never sprout and reach the surface. Hence, it is lost.

On page 205, Mr. Dadant says that he has about 4 acres of alfalfa that is disappointing to him, it being nearly ready to bloom, and at the same time weak and unadapted to the locality. In case the stand is good, the ground self-draining, and not underlaid with a solid bed of rock or hard-pan near the surface, I rather suspect that the soil is not

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inoculated with the alfalfa bacteria, which, it seems, is indispensable to its successful growth. In an early day I sowed seed two different times and although it germinated and showed up a good stand, it grew weakly, and in 2 years became so thin on the ground that I plowed it up. I sowed a part of the same ground again and was pleased to get not only a good stand, but a fairly vigorous growth, which now, after 20 years, is better than it was during the first 3 years after it was sowed.

About 3 years' time is necessary for alfalfa to establish itself fully and reach its full development. Up to this time it should not be pastured, experience having proved that it is detrimental, as a rule, to pasture it during the early years after it is sowed. And as a matter of fact, aside from its use for hog pasturage, it is best to cure and feed as hay to all kinds of stock. It never bloats hogs, but cattle, sheep and horses are bloated by it fully as badly as by red clover. It can be cut and fed to hogs in the green condition as cheaply as, or more so than, to build hog-tight fences so that they can be turned on it.

Lyons, Kan.

Report of the Chicago-Northwestern Bee-Keepers' Convention.

(Continued from page 243.)

Overhauling Bees.

"Is it necessary or advisable to overhaul every colony in the apiary in the spring? If so, when is the best time to to do so, and how?"

Mr. Wilcox—It has been my practise for many years to do so immediately after carrying them out of the cellar, to clean them if they needed cleaning. It is not absolutely necessary. It is about as well to let them wait a few days and give attention only to those which are very weak or very strong, and those which may be a little low in stores. Also to see if they want more feed for brood-rearing.

Mr. Taylor—It is never necessary nor desirable.

Mr. Whitney—I clip queens, so I find it necessary to do so. It is a good plan.

Mr. Wheeler—If Mr. Whitney used the right hive he wouldn't need to look through the combs.

Dr. Bohrer—I would scarcely know whether my apiary were in proper condition to see if each had a queen. Some are found queenless. Then some disposition must be made of the bees. You must look them over to know the actual condition.

Strengthening Weak Colonies.

"If any colonies are weak in brood or bees, or both, in the spring, what plan would be best to pursue in strengthening them, and why?"

Dr. Miller—As helping to bring out the answer it might be well to ask how many approve the Alexander plan?

Mr. Wilcox—The Alexander plan has been misunderstood.

Dr. Miller—Was an excluder used between the two? Was that part of the Alexander plan?

Mr. Whitney—The Alexander plan is understood to include the excluder. Then it isn't anything new. I supposed it was not a very different thing to put one colony upon another if we had an excluder on, and the queens would be protected.

Mr. Wheeler—It was my idea that they use wirecloth between them.

Dr. Miller—Alexander never did. Others do it, but not Alexander.

Dr. Bohrer—If I find a weak colony I give it a good queen, and such an amount of brood as the bees can take care of. I take the brood from some very strong colony, and give the weak colony only a small amount, just what they can well care for. It won't weaken the strong colony, and will strengthen the weaker one.

(Here the Secretary read Alexander's plan from "A B C of Bee Culture.")

Dr. Miller—How many have worked this plan successfully? 4. How many unsuccessfully? 1.

Mr. Baldridge—Some have had a good deal of experience. I don't like the plan, because I think there is a better one. Instead of putting the weak colony on top of the strong one, it should be reversed. I get better results. I have been practising this method for 2 years—placing the weak colony under. The bees from the strong colony can go out without mixing. When they return with their load of honey they will return to the lower hive. The young bees will remain in the lower hive to a great extent. You can build up better by placing the weak colony under. I never had a queen disturbed, because I put the strong colony on very quietly. I don't lose any bees nor any queens. That is a better plan than any other. If you put it in practise it will be worth every penny that it has cost you to come to this convention.

Dr. Miller—I have failed with it, and have succeeded with it. In one case I put on the strongest colony a very weak colony. In 10 minutes I saw dead bees being carried out. I left them alone. Soon all were killed. I had not taken pains to do it quietly. I expect that was the cause. In some cases I put a wirecloth between the two. Then you don't need to be careful. Then take off the wirecloth and leave the excluder on. I remember another case where a strong colony had placed over it a weak one, and after perhaps 3 days I raised up 3 frames of brood from below, brushed all the bees from them, and put 3 frames of brood in the upper story. I left them that way. The next time I went there I found all those frames of brood were occupied by bees. They probably came from below. I left them, and next time there was a good colony there. Rightly used, the plan is an advantage.

Mr. Wheeler—Did you consider, Doctor, that it was safer to use a wirecloth for a few days?

Dr. Miller—Yes, it is safer. If you are very careful it is not necessary, but it is safer.

Mr. Taylor—I haven't had very much experience—only 2 or 3 colonies. I never lost any bees that way. The first one I ever tried was before I heard of Alexander's plan. I found a colony that I judged was queenless. It had quite a large number of bees. I put a queen-excluder on another hive and set it on top. I found that they had a queen, and very soon I found I had a strong colony above as well as below. I used a queen-excluder.

Dr. Miller—I don't believe that the excluder is necessary if the poor colony is weak enough so that there will be no direct connection between the 2 clusters, if the work is properly done. The excluder merely prevents the queen passing through. It will not prevent bees passing from one part to another. An excluder is not necessary.

Mr. Taylor—If the weather is warm and the bees are active, I think it would be quite dangerous. If the weather is cool so that they remain in their separate clusters for some time, it is safe.

Wintering Two Weak Colonies in One Hive.

"Has any one had experience in putting 2 weak colonies into one hive with a partition between, and have them winter in good condition?"

Dr. Miller—I have had lots of them, and they wintered in good condition. Use a ⅜ inch wooden partition.

Mr. Taylor—I have wintered quite a number. I had several colonies light in stores. I selected some heavy colonies and put on a queen-excluder and set the light colony on top of the heavy one, and they wintered all right that way. That is, generally. But I put them out and allowed them to remain, and in that case the Alexander plan did not work very well. A great many of them united in one hive or the other.

Dr. Miller—With a partition between the frames 2 colonies can be wintered in the same hive. I wintered perhaps 20 double-hive colonies. When I looked in the winter at the cluster in each hive they would be down apparently in one cluster, merely with that one partition between them. Each cluster got the warmth from there. The cluster was just as nicely formed as if the 2 had been in one colony and some one had slid in between them that board. I believe the 2 (supposing each covered 3 frames of brood) would winter as well as one 6-frame colony. There is certainly a real advantage in having 2 weak colonies together.

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Mr. Taylor—I don't see much difference between the two cases, except that the bees can communicate with one another in my plan, but the 2 can work together just the same. They form one cluster, the same as Dr. Miller's.

Mr. Kannenberg—Would a wire partition be better than the wooden? I believe the heat would go through the screen better than it would with the wood.

Dr. Miller—Wire might be a little cooler.

Dr. Bohrer—I had some queens that I wanted to save over this fall. I had a good, strong colony and put in a good, strong partition. I gave a colony that was queenless a queen. You must see that the bees are equally divided. I introduced the queen after the ordinary method. I don't see why they won't winter well. I think the wooden partition is better, unless you want the queen to be acquainted with the bees on both sides.

Mr. Kimmey—Three years ago I wintered 6 colonies that way in 3 10-frame hives, with partitions of as thin wood as I could use. There was no connection whatever between the two parts.

Dr. Miller—In the spring I put them on the summer stands, and left them there until crowded and then emptied them into ordinary 8-frame hives side by side, and no trouble.

GRANULATED HONEY.

Mr. Barkemeier wants to know what to do with people that ask foolish questions about granulated honey.

Dr. Bohrer—Tell them that he is not allowed to sell honey that is not pure unless so labeled. That is the plainest way to deal with that kind of people.

Mr. Whitney—I would say, if I were selling honey, and if any one has some that would granulate, it is pretty evident that it is pure.

Dr. Eaton—I suppose I have had about as much experience with that line of complaint as bee-keepers themselves. Every little while some one will come in with a sample with the complaint that the honey he has purchased has "sugared," and that it has been adulterated. I have to explain that all honey will granulate, and if it doesn't granulate it is more a sign that it is adulterated than if it does not. Granulation is a sign of purity more than if it were not.

Mr. Moore—This has been the principal trouble in my business. Consumers are the people who find fault. Mr. Taylor is a wholesaler. I try to stick to the truth whether it pleases them or not. Very few people in Chicago know anything about it. They expect honey to be liquid, the same as when it runs out of the combs. The best thing I had to say was this: Go to your drug-store and find out if it is pure. Refer the customers to the druggists.

(*Continued next month.*)

SOME people are so fond of ill-luck that they run half-way to meet it.—Douglas Jerrold.

Conducted by J. L. BYER, Mount Joy, Ont.

Prospect for Best Buckwheat Honey-Flow.

At this date of writing (August 20) prospects are good for one of the best fall flows of honey we have ever had in our locality, all being from buckwheat. Only once previous to this year have we had any surplus from this source; but warm weather favoring us for a week or so longer, it looks as if considerably more than enough for winter stores will be gathered.

Report of Committee on Honey Exchange.

TORONTO, AUG. 1, 1908.

DEAR SIR:—The Honey Exchange Committee of the Ontario Bee-Keepers' Association met in Toronto on Friday, July 31st. Reports were received from over 250 points in the Province, and the general outlook is better than in 1907. While the number of colonies is still low, due to the terrible losses from the cold springs of 1907 and 1908, there will be a medium crop of both extracted and comb honey. The crop is much better distributed and the local consumption will be greater.

Prices are ruling higher in the United States and other exporting countries, and the quantities imported from these sources will likely decrease in competition with the Ontario honey at more moderate prices than 1907. Bee-keepers are urged to cultivate their local markets as much as possible.

The following prices are suggested for this year's crop:

No. 1 Light Extracted (wholesale) 10c. to 11c. per lb.
No. 1 Extracted (retail) 12½c. to 15c. per lb.
No. 1 Comb (wholesale) $2.00 to $2.25 per dozen.
No. 2 Comb (wholesale) $1.50 to $1.75 per dozen.

A later report to cover buckwheat will be issued.

Yours very truly,

WM. COUSE, Streetsville.
W. J. CRAIG, Brantford.
H. G. SIBBALD, Claude.

P. W. HODGETTS, *Sec'y.*

Shortly after this report was issued to Ontario bee-keepers, a circular was received from N. E. France, among other things saying that 8 cents was the ruling price for extracted honey.

Of course this no doubt refers solely to the United States markets, and is not likely to influence many Ontario bee-keepers to sell cheaper. All the same, it is a pretty good thing for us Canucks that there is a duty of 3 cents per pound on honey coming into Canada from countries other than British colonies. To the latter, the preferential tariff applies, and to this largely may be attributed the large amount of honey imported from Jamaica for manufacturing purposes; the duty being 2 cents per pound. The Jamaica product will never come into competition with our clover honey for table use, but for manufacturing purposes there is no question but that it is a factor well worth taking into consideration.

APIARY OF J. W. FREE, of Ontario.

A Neat Ontario Apiary.

The picture shown on this page is the apiary of J. W. Free, of Ontario. It has been the writer's privilege to visit a large number of apiaries during the past two seasons, many of which are kept

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AN 8-SUPER COLONY IN MR. FREE'S APIARY.

in good condition, yet without exception this apiary is, all things considered, one of the very finest I have seen. The hives all face the south on a gently sloping, closely mown lawn, and everything "has a place and is in its proper place." That their crop of honey was good goes without saying. The picture was taken this year just before extracting was started.

By the way, I sampled the honey, and at the time wished for the presence of some of the bee-keepers who contend that honey is just as good if extracted before being ripened on the hives. The product of this yard, this year, is almost water-white, waxy, and *honey* in the proper sense of the word.

Mr. J. W. Free is shown at the left, while away to the right can faintly be discerned the figure of his father, Mr. Wm. Free, whose hearty welcome to the writer will not soon be forgotten. Mr. Free is also a farmer as well as a successful bee-keeper, which gives the lie to the oft-expressed opinion that a farmer necessarily keeps his bees in a sloven condition. All the bees are of the leather-colored Italian strain, and I was struck with the uniform condition of the yard.

Mr. Free has been very successful in queen-rearing and runs some 30-odd nuclei for this purpose. Three of these nuclei occupy a standard hive, and with a wire-cloth bottom, these nucleus hives are placed right on top of strong colonies. While no effort has been made as yet to rear queens in a commercial way, I am greatly mistaken if Mr. Free will not be heard from in that line in the near future.

While visiting the apiary, the owners were thinking of requeening largely with golden stock. I advised strongly against such a course, at least in a wholesale way. I am greatly mistaken if a limited trial of the "beauties" will not prove the wisdom of such advice.

The other picture shows Mr. Free on the left, and his Uncle, Mr. Warrington Scott, on the right, as they started operations on the jumbo colony, all the supers full of honey on the hive being the product of that colony. Mr. Scott is an expert bee-keeper and mechanic, all the hives and fixtures having been made by him. If I am correct, I believe Mr. Scott has a share in this apiary, and Mr. Free is free to acknowledge that much of his success has been due to his having had such a very good teacher. A good teacher and an apt scholar is a combination that works wonders in bee-keeping as in anything else.

These pictures are the work of Mr. Scott, who, by the way, is an enthusiastic *amateur* photographer, although his work would put to shame many of the professionals.

Referring to those hives tiered up so high, speaking to Mr. Scott, I ventured the opinion that perhaps more honey would have been secured if not more than three supers to the hive had been used, and some extracting been done during the flow. He was inclined to agree with me, and while I would sooner err on the safe side, I feel convinced that the tiering up was a little overdone to secure the very best results.

But say, after a couple of years of short crops, a yard in the condition like the one shown, goes a long way towards stirring up one's enthusiasm to fever heat again!

By W. A. PRYAL, Alden Station, Oakland, Calif.

Ralph Benton on Bees.

One of the opening lectures given for farmers at the University of California in the middle of July was on "The Honey-Plants of California," by Ralph Benton. While I was at the University botanical grounds on the day of the lecture, I did not hear Mr. Benton. I suppose, however, that he covered the subject fairly well considering that he had been but a comparatively short time in the State. He is doing good work for the bee-keepers of California. I notice that the small apiary belonging to the University, which I heretofore mentioned as being in the dense shade of evergreen trees, has been removed elsewhere.

Oh Where! Oh Where! Can I Get Bee-Ware?

This is not the title of a new bee-song; it is rather the refrain of quite an old one that was sung to a rather doleful tune the past spring and summer in these parts. It comes a-droning from hill and vale ever and anon, for the simple reason that the bottom of the bee-supply business dropped out of San Francisco. One after the other of the places that dealt in apiarian supplies, failed or went out of business, and the honey-crop that might have been was wasted upon the "desert" air. Several correspondents have asked me where they could purchase supplies in the big metropolis. I crossed the bay (or rather went *around* the bay, as business took me that way) for some, and was disappointed to find that the firm I procured them from the previous year was out of business. The strange part of it was that less than two hours before I was in San Jose, and could have secured what I wanted at a store there, and would have done so if I had known that I could not have made the purchase near home.

White Clover in California.

It is generally believed that white clover will not grow in California. It does grow and blooms profusely, but

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owing to our long dry spells of weather, it can only succeed in moist spots or in places where it can be irrigated. I have seen it growing freely along roadsides through the Eel River country in Humboldt county, one of the garden spots of the State, and which, let me remark, was once a redwood (*Sequoia sempervirens*) forest. When the trees were converted into lumber, and the stumps burnt out of the soil, the land for years was devoted to the raising of Humboldt Reds—a fine potato in its day. But in time the land failed to produce profitable crops of these tubers, as the farmers did not know how to fertilize the soil or rotate crops, as is practised nowadays. So the region became a dairy country, and the land now produces large crops of various fodder-plants for soiling cattle.

Of course this land can again be devoted to potato growing, by modern methods, and bring returns that will surprise the old-time farmer. But it is of clover I was writing. Well, any land that is moist, be it river-bottom or hillside, will grow white clover, and give the bees splendid honey-pasturage. The other day I had occasion to pass through that portion of Berkeley, away up on the hillsides, a few miles north of where I live, and I saw many lawns entirely of the plant under consideration, and white with blossoms, upon which the bees worked merrily. Some of those lawns were all of several hundred feet elevation above the bay.

Bees and the Agricultural Press.

I have been reading several of the best of the agricultural papers of this country during the past year or so, and I have been impressed with the fact that few of them have anything in them about bees, and most of those that have anything give but a meager amount of space to the subject.

The Rural New-Yorker has no apiary department, but it touches upon bees and bee-keeping occasionally. I observe that its editor knows a thing or two about these insects, and gives them praise for their usefulness as pollenizers of flowers, fruits, and vegetables. He has shown that bees do not damage fruit—'tis birds or something else.

In the spring the Practical Farmer had a whole page of interesting letters from bee-keepers. But on another occasion I noticed that the editor was "away off" when he came to write of bees, especially of Caucasians as "stingless bees."

The Farm Journal has a regular bee-column which is written for Eastern bee-keepers, and, I suppose, is all right.

Suburban Life, while not a farmer's paper, is so near such that I mention it here. It now and then treats on bees. The June number had a reliable article about a New York State queen-breeder. It was not intended as an advertisement, but it was really one of the best notices I think a bee-keeper ever received. One feature about the article I did not like was that it gave the impression that there was "millions" to be made in rearing queens for sale. Show me the breeder that has yet made a fortune at the business! In the August number (just to hand) of the same magazine, I find this question in its query department: "Why do cucumbers which blossom freely fail to set fruit?" In replying, the editor ventures one of the reasons in these words: "Probably because there are no bees to fertilize the flower."

One of the papers that has long given a good quota of space to bees and bee-keeping is the Pacific Rural Press. The issue of July 18 has an article by young Mr. Ralph Benton on "Bee-keeping: a California Industry." The article is mainly a history of the honey-bee in this State, but I think the writer claims too much for California as a honey State. A column in the same issue is devoted to an account taken from a Fresno paper of a runaway team in an apiary, a story that is most tragic, and likely to give the reader a dislike for bees and bee-keeping. But such an accident to a 4-horse team getting into an apiary and being stung to death, as well as the driver meeting the same fate, to say nothing of being almost driven insane, is no worse than if the team got into a corral and was gored to death by an infuriated bull, or was set upon by mad dogs.

But, as I was going to remark, the agricultural press does not give the space to apiarian subjects that it did a decade or more ago. Probably these papers know that such field had better be left to more competent and reliable hands, to-wit: the bee-papers. So smote it be.

Kicking Up the Dust.

Did you ever watch a bee gathering pollen from a plentiful source? Recently I did, as the bees turned out *en masse* upon the poppies in our garden. How a bee would hunch up a lot of anthers or stamens and kick up her legs most immodestly, so as to collect the pollen on her thighs or bread-baskets. Sometimes a dozen bees would be busily hustling up the pollen on one of those poppies. It was really interesting.

Too Many Fussy Fixings.

Gentle reader, did it ever occur to you that this matter of getting out fixings, or bee and honey furniture, is getting to be a costly business? And it is getting to be far too costly, too, for the apiarist. And I will venture the statement, at the expense, possibly, of incurring the displeasure of some supply manufacturers, that there has been a useless multiplicity of contraptions commonly denominated "bee-ware." Yes, 'tis time to beware of such extravagance. When we get down to one or two styles of hives with a uniform lot of frames and other accessories, we will get all the honey there is to be got, and have much fatter purses.

This reflection was impressed upon me when conversing with a merchant in San Francisco recently—a gentleman who would carry apiarian supplies but for the fact that it required too much capital to do so, to say nothing of the large amount of store-room required to house such fixtures. And, then, the manufacturer requires spot cash, though credit is extended in nearly, if not all, other lines of trade.

Here I might remark parenthetically that I would hardly blame the manufacturer getting paid in advance, inasmuch as I believe one big eastern concern got "pinched" several times by the financial embarrassment of a couple of firms in San Francisco.

The strenuosity of modern bee-keeping as practiced in a large portion of the United States is a pace that is too killing for the honey-producer and the bee-ware maker. Let's get down to hard-pan, money and honey. There's where prosperity lies.

Wee Honey-Bees.

A couple of weeks ago my attention was attracted to some of the smallest honey-bees I ever saw. Some were working upon flowers at the University of California; the others were getting honey (?) and pollen from parsnip flowers on my place. The former bees were less than half the size of Italians; the others were smaller still.

Caucasians Non-Stingers.

I have seen bees that would make a fellow try to jump over a church-steeple, or even attempt to crawl through a brick wall in order to get away from them in the most expeditious way possible. Black bees are pugnacious when it suits their fancy; Italian bees are rambunctious when they're crazy; punics and hybrids are said to be in fighting trim always, but Caucasian bees are as gentle as kittens and as meek as little lambs. I will take my stand and live and die by the latter race of honey-gatherers. They are the bees for me. This is the decision I have arrived at after trying a strain I obtained from Michigan.

I notice that the Practical Farmer states that the Caucasians have no stings—that they are, forsooth, stingless. They have stings, and can sting when they find it incumbent to defend their hives, and they have to be well provoked before they will do so even then.

I further notice that the editors of Gleanings are slow to give any adequate meed of praise to these bees. From what I can glean from various sources I would say they are in the shadowy minority, yet time may prove their deductions correct.

Aside from the "stingers" of these bees, I find them ahead of any other bees I ever had in early brood-rearing, getting out almost before the sun is up to be a-field after a load of the newly-distilled nectar, and they keep incessantly working away all day. This makes them the best honey-gathers.

Other good features may be recorded in their favor, but the above will suffice.

Bee Journal for 1907—40c.

We still have on hand some complete volumes of the American Bee Journal for *1907*, which we will mail for 40 cents each. The first half of that year the Bee Journal was issued weekly, and the last half monthly, which would make 32 numbers. And all of them for only 40 cents! Surely this is a bargain for any new reader who has become a subscriber this year.

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Be Careful to Whom You Sell Honey.

The season for marketing honey has begun. While it may seem like an unnecessary repetition, we desire again to caution you to be careful to whom you send your honey. When you sell for cash, be sure that your man is responsible. If you can not learn anything about him, you had better sell on commission, for then he can be held liable if he takes your honey without rendering you returns. But he may make very meager returns, and delay making payment. So we advise you not to trust any one unless he has a good rating and a reputation for dealing on the square. Better take a little less price, and deal with a man of known reputation.—Gleanings in Bee Culture.

Three Days' Apiarian Exhibition.

The bee-keepers of the two Charentes held in July an international exhibition, lasting three days, of bees, bee-appliances and honey, at Saintes, a town in France of about 20,000 inhabitants. This gives us a fair idea of the enterprising spirit which characterizes many of the European bee-keepers' societies. It takes a considerable amount of money and a great deal of work to conduct such a meeting; but it is worth it in the enthusiasm it creates.—Gleanings in Bee Culture.

Transvaal Bee-Keepers' Association.

Johannesberg now has a full-fledged bee-keepers' association with the above name. Those at the top are the Earl and Countess of Selbourne; the Minister of Land, the Minister of Agriculture, and General Louis Botha. It is intended to have branch associations in the principal centers, and one is in course of organization at Pretoria. The conditions are suitable in South Africa, and in time the land of Angora goats and ostriches, diamonds, and gold will probably figure largely in the bee-keeping world. I note the colonists show a decided preference for American bee-supplies, in which they follow the example of other British colonies.—Gleanings in Bee Culture.

The Death of Zoubareff.

The British Bee Journal recently announced the death of a famous Russian bee-keeper, M. A. F. Zoubareff, at the ripe old age of 87 years. He went to school with Pobedonostseff, Procurator of the Holy Synod of Russia, who died last year. Readers of the newspapers will remember it was Pobedonostseff who inspired the Czar to resist all reforms. On account of his health Zoubareff went to Switzerland in 1883, and there became acquainted with Mr. Ed. Bertrand, who converted him to the Langstroth hive and system. Hitherto he had advocated the Dzierzon-Berlepsch system. He was largely instrumental in inducing the Russian bee-keepers to adopt the Langstroth hive. He wrote a book with this end in view, chiefly to instruct school teachers in our system. He also translated Mr. T. W. Cowan's Bee-keepers' Guide Book from French into Russian, and otherwise worked faithfully to help Russian bee-keepers find the most profitable system of bee-keeping. He lived close by Lake Ladoga, not far from St. Petersburg.—Gleanings in Bee Culture.

Danger of Robbing—The Robber-Trap.

Now is the time to avoid robbing. Nothing costs the bee-keeper more than to let a bad case of robbing get started; for so long as these robbers exist at all they will continue to annoy both the bee-keeper and the weak colonies. We do not nowadays intend to let robbing get started; but if it does, we use the robber-trap. This is nothing more nor less than a common hive with a Porter bee-escape so arranged at the entrances that the robbers can pass into the hive but not out again. Something more effective than the Porter for this purpose is a long flat wire-cloth cone, the apex of it reaching about to the center of the bottom-board. The robbers will enter this better; and the point of the cone is so far from the entrance they do not find their way back. This trap is put on the stand of the robbed colony, when, presto! they are caught. When the robbers are once trapped they should be taken immediately to an isolated location or brimstoned. Having once acquired the stealing habit they will do tenfold more damage in a bee-yard than they can ever do good, and it is "a mighty good riddance" when they are removed entirely.—Gleanings in Bee Culture.

Bees in Imperial Valley.

The Imperial Valley Press of Aug. 1, 1908, contains the following in reference to bee-keeping in that valley.

Imperial Valley honey is still in demand, and this week two more carloads of honey were sent out from El Centro by the Imperial Valley Bee-Keepers' Association.

A meeting of the association was held on Wednesday at the office of the El Centro Cantaloupe Growers' Association, and four new members were admitted. The association is now composed of sixteen of the most extensive bee-keepers in the valley, and it practically controls all of the honey output here.

At this meeting 70 cases of honey were pledged for the next shipment, and they will be at once placed in storage in El Centro. The shipments of this week were sent to El Paso, and from there may be diverted into smaller lots to eastern points.

J. B. Whitaker secretary of the Imperial Valley Bee-Keepers' Association, believes that until there is a considerable increase in the acreage of alfalfa in the valley, the bee-keeping industry cannot profitably expand further than its present limits. He discusses the general situation interestingly, and says:

"Until the summer and fall of 1907, the Imperial Valley attracted very little attention as a bee country. The harvest of 1907 amounted to about 1000 cases of extracted honey, from about 700 colonies.

"During the fall and winter of 1907, about 5000 colonies were shipped in from different Southern California points, bringing the total number up to 6000 colonies. The present season's crop of honey is estimated at about 4000 cases.

"The apparent decrease in the average per colony this year is due to several reasons. In several localities over-stocking is in part responsible for the shortage. The general opinion is that alfalfa bloom louse is responsible for the light crop. This almost microscopic insect inhabits the alfalfa bloom and consumes the nectar, with the result that there is little left for the bees. Whether or not this parasite has come to stay remains for time to settle.

"The Imperial Valley Bee-Keepers' Association, formed for the purpose of handling the honey crop, represents fully 90 percent of the industry in the valley. Bee-keepers who contemplate moving their apiaries to Imperial Valley should by all means first pay a visit to the valley, or correspond with some bee-man located here, before making up their minds.

"Bees can be bought here as cheaply as elsewhere, and until the country is further developed, the valley bas every colony of bees it will support with profit."

Length of Bees' Tongues.

Professor Kulyagin, of Russia, claims to have found a very accurate method of determining the length of a bee's tongue; and after many measurements he gives the following averages expressed in millimeters: Russian, 6.21; American, 6.22; Italian, 6.25; Cyprian, 6.50.—Gleanings in Bee Culture.

Slow Queen-Mating and Longevity.

Who can tell why the queen daughters of some mothers are very slow to mate? The writer had one queen whose queen daughters never mated under fifteen days and most of them not until older than that. The workers were particularly long-lived and the mother queen did two years' marvelous service in the writer's yard and was reported as in her second year when he received her. Is there any connection between slow maturity and longevity?—Arthur C. Miller, in American Bee-Keeper.

Short Honey Crop in California.

Speaking of California, particularly Southern California, the New York Fruit and Produce News says:

"It appears to be destined that every other year shall be a blank in the honey-deal, but this is a year that is unprecedented in the annals of beeology. Never have prospects been poorer for a crop than they are today. The banner year produced 600 cars of honey. Last year the production was 225 cars and the average for the past 10 years has been over 150. This year, outside of the Imperial Valley, the output for Southern California will not be over 25 cars, according to the estimate of the largest honey dealer in Los Angeles. This looks like high prices, as there was very little carried over from last season, this all being in the hands of one man."

Dare to be true: nothing can need
a lie;
A fault which needs it most,
grows two thereby.
—George Herbert.

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Send Questions either to the office of the American Bee Journal or to DR. C. C. MILLER, Marengo, Ill.
Dr. Miller does *not* answer Questions by mail.

Pollen in Extracting Supers.

What do you do when there is pollen in extracting supers? TENNESSEE.

ANSWER.—Leave it there. The bees will work it out. Even if they shouldn't, it would do no harm, for it would not be thrown out with the honey when you extract.

What Are Genuine Italians?

Are the enclosed bees genuine Italians? I bought them for that, and wish to sell stock from them, but being a beginner with bees, I want to know what I am selling. MISSOURI.

ANSWER—The worker progeny of a pure Italian queen should show 3 yellow bands, although the first band next the thorax is quite narrow. As nearly as I can tell in their dried condition, after being through the mail, only one of the 4 specimens clearly shows the 3 bands.

Requeening and Transferring.

I have 2 colonies of bees that I wish to requeen. The comb is somewhat crooked. I will have to cut some. When is the best time to do this? Is it likely to start robbing to do it soon, say in August, or would I best wait until next spring?

We have had a bad year for bees, not getting any honey this season. MISSOURI.

ANSWER.—Right now, any time the bees are busy gathering, will be as good as any to avoid robbing. In one respect it is better in spring, for then the combs are not full of honey.

Black Drones in Italian Nucleus.

Do pure Italian bees show black drones, or drones on which the yellow is in very small spots where the bands should be? That is the way most of the drones are from a queen in a 3-frame nucleus of bees that I purchased in June. They are working well. NEBRASKA.

ANSWER.—Italian drones vary no little in appearance, and can hardly be said to have bands as do the workers. If the workers show the proper number of bands, you may rest assured the drones are all right.

Bees Gathering from Sour Fruit.

What is good for bees in the fall of the year when they get after sour fruit? We are troubled here in the fall with bees dying out with cholera. MICHIGAN.

ANSWER.—You probably have reference to bees dying with diarrhea when working on sour fruit. Generally there is no very great harm from this except in the vicinity of cider-mills, and sometimes these make serious trouble. I do not know of any cure. Prevention is the only thing, and that is difficult. Some bee-keepers succeed in getting owners of such mills to screen them in, so that the bees can not get at the pomace or cider.

Pollen in the Sections.

I am in the bee-business on a small scale. I started with one colony of bees, in 1902, and I now have 32. I winter my bees on the summer stands, and have never lost a colony. In all of my bee-keeping I never saw so much pollen in the brood-nest. All colonies seem to be in about the same condition as regards pollen. My queens are all young—none over one year old. I reared some, and bought some from different queen-breeders. What I rear seem to be equal to any I have. My bees are in 10-frame Langstroth hives. I have not had any trouble with pollen in sections. What would be the best course to pursue in this case? MISSOURI.

ANSWER.—I doubt if there is anything wrong but what will right itself. At present there may be an unusual amount of pollen in the brood-combs, but please remember that the bees use a very large amount to feed the brood. Unless the bees fill so much pollen in the combs that the queen is crowded for room, there is no cause for alarm. If it really comes to the point where you think you must get rid of some of the pollen, you can soak the combs with water till you can throw out the pollen with an extractor.

Lubricant for Foundation Mill Rolls.

What is used as a lubricant on the rollers of a foundation mill? The one I have sticks. I can not set it close enough to make any cell-walls at all. This is the first time I am using it, as I had a lot of foundation bought shortly before buying the mill, so did not try it before. I am using just clear water now. I dipped the sheets last winter. Any advice you give me will be thankfully received. NEW YORK.

ANSWER—Starch is used as a lubricant, also honey. If your sheet of wax is too cold, the wax will not be pressed up into a side-wall. Try having the wax warmer.

Supers Under Brood-Chamber.

What would be the result if supers are put under instead of over the brood-chamber? I suppose it has been tried, but I have seen no mention of it anywhere. I mean for comb-honey production—the 4x4 sections. CHICAGO.

ANSWER.—It is natural for bees to store above the brood-nest, and they would hardly be expected to make as good work, especially at sealing up, with the sections below. I have known them, in some cases where brood-combs were over sections, to carry down black wax from the combs and darken the cappings of the sections.

Perhaps Old Queen.

1. I have a large colony of bees that work well, but do not have much honey. They have a lot of drones, and a large number of drone-cells. There are not many worker-cells, and almost all of them are empty. What is the cause? NEBRASKA.

ANSWER.—Hard to say why such a large proportion of drone-comb is present. Perhaps an old queen was present at the time of comb-building. You can help matters by taking out any frames that have too much drone-comb, replacing them with frames full of worker-foundation. You might also cut out the drone-comb, and put in its place patches of worker-comb. Spring, however, is the best time for this, say about the time of fruit-bloom.

Facing Hive-Entrances — Getting Increase—Wild Clover.

1. Does it make any difference if the hive-entrance faces the north during the winter, and would it be a good plan to build a sort of box around the hive and close the entrance one-half its present width?

2. Would you advise me to take the frames out of the super and fill it with rags or sawdust, and place it over the brood-chamber in the winter? I intend to leave the hive out-of-doors all winter on its summer stand.

3. How shall I increase in the spring? I don't want to lose the swarms.

4. Is wild clover a good honey-producer? We have hundreds of acres of it here. OHIO.

ANSWERS.—1. So far south as southern Ohio it probably makes little difference how a hive faces. Yet a good many favor facing south, and having no protection on the front. In this way the bees more quickly get the effects of the sun on a warm day in winter.

2. Your plan is good.

3. If I understand aright, you are afraid that the bees may swarm naturally, and abscond. You can help matters by having all queens clipped. The queen may sometimes be lost, but that is better than to lose both bees and queen. You may practice shaking swarms, or, as the Germans call it, anticipatory swarming.

4. By "wild clover" you probably mean white clover or sweet clover. Either one is an excellent honey-plant.

Getting Rid of Moths.

I am a young bee-keeper. I have been brought up with bees until my father died. Since his death I have been taking care of the bees. They have increased from 3 colonies to 11, and about 9 of the 11 are strong colonies. The other 2 are weak. I find moths in some of the other colonies, too. I go to the hives every morning and raise the hive and clean out from underneath. I would like to know how to get rid of moths. ILLINOIS.

ANSWER.—Just two things to get rid and to keep rid of moths. Keep none but strong colonies. Second, keep Italian bees. Even a quite weak colony of Italians will keep the moth at bay. For years I've paid no attention to moths, and my bees are to a large extent hybrids. Years ago, when I had bees that could be guaranteed pure black, the moths were quite troublesome.

Best Appearance of Queenless Colony.

1. What is the best appearance or indication of a queenless colony? I have one that cast a large swarm the first week in June. They continued to work 3 weeks, and have the brood-chamber full of honey and brood. They have stored no honey in the super. For the past 3 weeks they have stopped all working.

2. If queenless, will they not rear a new queen? MISSOURI.

ANSWERS.—1. There is no infallible outside indication, although after a colony has been queenless for some time you will see that it carries in little or no pollen when others are carrying in much.

2. If they have been queenless 10 days or more, and have failed to rear a queen, or have reared one which has been lost on its wedding-trip, there is no hope of their rearing another unless you give them eggs or young brood from which they may rear one.

Questions by a Beginner.

1. Would it pay to keep bees in the eastern part of Virginia?

2. How may I know whether I have pure Italian bees?

3. After a queen's wings are clipped, how long will it be before she has wings again?

4. What time of the year is best to buy queens?

5. Are Italians larger than black bees?

6. Does it make any difference if Italians are reared in black combs? VIRGINIA.

ANSWERS.—1. Rightly managed, they ought to be profitable.

2. The rule is that the worker-bees should all show 3 yellow bands, although the first band, the one toward the head, is very narrow. That is as the pure Italians come from Italy. Bees are bred in this country, however, that have more yellow. Some think them an improvement, others not.

3. A clipped wing never grows out again.

4. Any time from June till Fall.

5. You can distinguish no difference.

6. No.

Cellar for Wintering Bees.

I have a cellar under the west wing of my house, 16x26 by 7 feet high. There are 2 windows in the west end. It is built of stone, with concrete floor; lathed and plastered over head. There are two 2-inch ventilators in the north wall. I partitioned 8x16 feet off the north side of this cellar for bees. In the fall of 1906, I placed 50 colonies in it. In

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the Spring of 1907, I took out 40 very weak colonies and 5 bushels of dead bees.

In the fall of 1907, I extended the partitions to the west wall, took out the window, and put in two dummy windows in its place. I cut holes through the dummies for a 4-inch pipe; put the pipe through these holes and extended it slanting up the outside 12 feet. There is a damper in the cellar end of the pipe. I raised the platform that the hives were on 10 inches from the floor. The last of November, I put 56 colonies in fair condition in the cellar. Last spring I took out the worst lot of bees I ever saw—nearly all dead, with water and honey running from the hives; combs all mouldy and daubed.

How can I make that cellar a safe place to winter bees? I used the Heddon hive.

MICHIGAN.

ANSWER.—It isn't easy to say just what is the trouble without having more particulars. I suspect that the chief trouble is cold. If the cellar stands a good part of the winter below 45 degrees, you can not expect good results. If a small stove is kept to warm the cellar whenever the temperature falls below 45, that may solve the whole trouble. Ventilation is important, but likely your ventilation is all right.

Toads—Packing Bees for Winter—Bees Gnawing Foundation—Brood-Frames in Winter.

1. How do you keep toads from eating bees?

2. Which would be the best way for wintering bees, by putting 2 colonies in each chaff box, or by putting them all in one?

3. Would a colony of bees produce enough honey from August on, to keep them through the winter?

4. What makes the bees gnaw the foundation-starters?

5. Should the brood-frames be taken out for winter? If not, how should I get out the pollen?

MINNESOTA.

ANSWERS.—1. Perhaps no better way than to raise hives so high that toads cannot reach the entrance.

2. There is the advantage of mutual heat by having 2 in the same box.

3. Sometimes yes, sometimes no. All depends upon the amount of forage.

4. I don't know. Mischief, perhaps, and perhaps they use the wax the same as beeglue. Generally you will find them gnawing foundation only when they are not storing. It is a bad plan to leave sections on the hive after the harvest is over.

5. No; what do you want to get the pollen out for? It may be of no value to you, but for the bees it is as valuable as honey; sometimes more so. If you could get all the pollen out of the combs in the fall, you would find no young bees reared in spring till the bees could gather pollen.

Starting with Bees.

I have one colony of bees, said to be the Italian, as they have the bands, as they all call them. The fuzz on the front part of their bodies is very yellow on most of them; some are silvery gray. They were put in a new hive with 8 frames. After I had them 2 weeks I put on a super with 24 pound-sections, with one inch of foundation in each case. They must have the hive about full of honey as it is very heavy. I never had anything to do with bees before, so I would like to know if I have gone right so far. There is a great deal in the American Bee Journal that I don't understand. I got my bees June 20, and have been trying to get some more, but they have stopped swarming.

2. I would like to know how I can see the queen without getting stung.

3. What kind of bees do you think best for getting honey from red clover? I would like to know this, as I am going to get some more bees.

MISSOURI.

ANSWERS—1. You have done very well for a beginner. Next time, instead of waiting 2 weeks before putting on sections, put them on within 2 or 3 days after the swarm is hived, or as soon as the queen has begun to lay below. It is quite possible, too, that more super-room should have been given before this. Don't wait till the first super is filled, but give the second super when the first is half filled; sooner if the colony is strong and the yield heavy. Instead of having only a 1-inch starter in each section, many of our best comb-honey producers fill the section with foundation.

2. One way is to wear veil and gloves, so that the bees can not get at you to sting you. You may do without the gloves if you use care in moving slowly and handling the bees gently, using just enough smoke to keep the bees under subjection.

3. If there is any difference, Italians are probably better than blacks; but you needn't count much on red-clover honey from any but bumble-bees.

Let me give you a piece of advice that may be worth $5.00 to you if you have only a single colony of bees, and I'm not going to charge you a cent for it. My advice is to buy a bee-book. After you have studied it with some care, many things in this publication that are now Greek to you will be entirely clear. A bee-paper comes after a bee-book as a sort of supplement, and there are some standing in their own light who think they can get along with the paper alone. If you can't have both, do without the paper and get the book.

Cleansing Beeswax with Acid.

How do you cleanse or brighten beeswax with acid? What kind of acid do you use, and how is it applied?

MICHIGAN.

ANSWER.—You will find the matter very fully treated in latest edition of Root's "A B C and X Y Z of Bee Culture." In a large way steam is used. Not many have that. In that case you can use, in a smaller way, a large earthenware kettle. Into this put a small quantity of water, and, after it has come to a boil, put in a cake of wax. When melted, add the acid.

"If this is too slow and tedious a job, a large iron kettle that will hold 7 or 8 pails of water may be used. Fill this kettle about half full of water. Start a fire under it, and when the water boils, put in the wax. When melted, add the proportionate amount of acid. Keep hot for a few minutes, and then allow the fire to die down. As soon as all the particles of dirt have settled in the water, dip off the clear wax on top, being careful not to stir up the dirt in the water."

I have cleansed wax by merely pouring the acid into the wax and water, after it was taken from the fire and ready to be poured out and cooled, pouring in the acid very slowly for fear it would boil over.

Sulphuric acid is the kind used, in the proportion of about one part to 100 of wax and water. G. M. Doolittle uses a pint of strong vinegar in a quart of water for every 10 pounds of wax.

Some foundation-makers prefer that the wax be not thus cleansed, saying that it changes too much the character of the wax.

Milkweed as a Honey-Plant?

I want to ascertain the value of milkweed blossoms for honey. It is very plentiful here. The blossoms have a very fragrant odor, and contain a great deal of sweet. The blossom slapped on the back of the hand will make it wet with the sweet liquid. It has occasionally been used by the Indians in making sugar, and the taste is nearly the same as maple. I am a small farmer and thought that possibly this milkweed might be valuable for honey. If so, I think I should like to try a few colonies of bees.

MICHIGAN.

ANSWER.—From what you say, the plant ought to be a great honey-yielder; greater, probably, than is generally supposed. Nothing very definite is known on this point, and it is doubtful if any milkweed honey has ever been reported. You are in a good position to test the matter, and perhaps can give definite information that will be valuable. If the common milkweed, *Asclepias cornuti*, is meant, it is better known by the fact that its pollen-masses cling to the feet of the bees, crippling and sometimes causing them to be driven from the hive. It may be, as Prof. Cook suggests, that the large amount of nectar yielded may much overbalance the harm done in this way.

Partly Filled Sections.

1. In taking off comb-honey supers, I find very many sections only partly filled. I know they will be very valuable next year to coax the bees into the supers; but what can I do with them now?

2. I filled some supers with these sections and put them back on the hives, as they contained considerable honey; besides, I thought they would be safest there from the moths. Would it be best to leave these sections on the hives through the winter? Would the comb in them get black?

MISSOURI.

ANSWERS.—1. In many localities there is a fall flow, and if there is such a flow in your locality you may be able to get the bees to fill out the partly filled sections. If the flow is over, the sooner they are off the hive the better. Even if you do not have a fall flow, and it is some time before it begins, better take the sections off, and then give them back to the bees again when the flow is on. Partly filled sections that are to be kept over winter should have all their honey emptied out by the bees. If you have so many of them that you have something like a superful for each colony, you may put them where the bees can have access to them all at once, putting them out in the open, perhaps better toward evening. But if you have only a few in proportion to the number of bees, then pile 3 or 4 supers in a pile, and allow an entrance so small that only one or two bees can pass at a time. You see if a big lot of bees gets at a little lot of sections, the bees will tear the comb to pieces.

2. No, don't leave them on after the bees stop work in them. The sections may not get so very dark, but they are likely to be daubed with bee-glue so that the bees will not readily accept them next year. Keep the sections covered in a dry place over winter.

Gunny-Sack Smoker-Fuel — Shredded Wheat Biscuit and Honey.

Take a piece of an old gunny-sack, roll it up and light one end of it with a match. Then crowd it down into the smoker and put a few small chips on top. You will get a bigger cloud of smoke in this way than any other kind of fuel. If the piece of gunny-sack is pretty well propolized, all the better.

Take a shredded wheat biscuit, soften it pretty well with hot water, mash it down flat, then cover it with butter, and cover again with a very good quality and quantity of extracted honey. Then eat, and tell readers of the American Bee Journal how you like it.

EDWIN BEVINS.

The best fuel for smokers is to some extent a matter of convenience. Both gunny-sack (burlap) and dry hardwood chips are excellent seperate, and no doubt the combination is good. Just now the chips are plentier in this locality than burlap, so they are preferred. A piece of cotton rag that has been saturated with saltpeter is thrown in the smoker, a match touched to it, the smoker filled with chips, and then a little blowing puts the fire in good trim.

The burlap is the favorite of W. L. Coggshall, in the form of old phosphate sacks, which are probably plenty in his locality. He rolls up a piece of the material, ties a string around it at intervals, and then chops the roll into proper lengths with an ax. Each roll has one end dipped in saltpeter-water, and when dried it is easily lighted.

Shredded wheat biscuit are mostly used here minus the "shredded," but the rest of the prescription is all right with a little variation. A piece of biscuit, or bread, is fairly spread with honey, cut up into squares, and then slid from the plate into a bowl of Guernsey cream. No particulars are needed as to the rest.

Getting Into the Bee-Business.

A novice in the bee-business has got into trouble by having a swarm of bees make a home in the cornice of my house in June, 1907. They seemed to thrive, for on June 16, 1908, they swarmed, and went away. Well, I said, "Good riddance," but again on the 25th another swarm came out and I thought if they were going to keep that up I would take a hand, so I resurrected an old hive that I had not seen for years, and a neighbor came and hived them, and on the 28th another swarm came out, and I put them in an old box. Now I thought it time to prepare for the future, so I got a new dovetail hive, and none too soon, for on the 29th they swarmed again and I hived them in the new hive, and on July 1st, another swarm issued and a cracker-box had to make a home for them.

Now I have become interested in the little workers, and have ordered a bee-book and two bee-papers, but my trouble has just commenced. I looked at the first box-hive on the 25th, and there is considerable honey in it and joined to the cover. If I make an opening in the cover and put a hive with frames and foundation on top, will the bees go into the hive? Then I can put the hive on the bottom and save the bees, for I rather like to work with them, and we seem to get along pretty well.

ILLINOIS.

ANSWER.—This is an extraordinary year, and it may be that your numerous swarms may all build up for winter. Ordinarily it would be good practise to return all after the first to the old hive.

Yes, if you set a hive on top, the bees will go into it without any trouble, but their brood-nest will remain below, and the hive

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above will be filled with surplus honey. That is, they will do so if, and after, they have filled all the space in the hive below. If you set the old hive over the new, then when they are crowded down for want of room above, they will occupy the lower hive for their brood-nest, and you will have the upper hive filled with honey, providing the upper hive is not too large for the amount they will gather. If you prefer to have your surplus in new combs rather than in the old combs, you can put empty room above, cutting a hole or holes in the top of the old hive, so the bees can go up; then next year you can hive the first swarm in a good hive, and 21 days later cut up the old hive.

Absconding Swarms — Transferring Bees—Hunting Bees.

1. A year ago last spring I bought 2 colonies of bees in box-hives. Last year they did well, having 4 good, strong swarms, but this year all but the first absconded. Swarm No. 2 I put into the hive 3 times before they stayed. No. 3 went away without clustering. The others left the hive the next day after being hived. I followed them up and they went to the woods in hollow trees. I would like to know what is best to do. I have standard frame-hives with foundation starters in them.

2. Is there any way to make bees cluster?

3. When and how should bees be transferred from trees to hives? My bees are Italians and are in box-hives all but this year's swarm.

4. What is the best way to hunt wild bees? Is there any better way than to line them?

NEW JERSEY.

ANSWERS.—1. The usual cause of absconding is heat. See that the hive is shaded, if only by an armful of fresh-cut hay on top, weighted down by a stick of firewood, and it will be a help to shower it with water. Give abundance of ventilation. Besides having the entrance as large as possible, let there be a large opening above, shoving the cover forward so as to leave an inch space for 2 or 3 days. In addition to this you might give a frame of brood. Bees don't like to lose so much of a start toward house-keeping.

2. I'm not sure there's any easy way to make them cluster, unless to sprinkle them with water; but I don't believe you can stop them from clustering. At least 99 times out of 100 they'll cluster of their own accord.

3. Cut the tree and split it open; then transfer as you would from a box-hive.

4. There is probably no better way than to line them, if indeed there is any other way.

Virgin Swarms.

I do not wish to criticise or set myself up as a critic in anything pertaining to bees, but, if permissible, I would like to say a few words in reply to your answer to "Virginia," page 215, in regard to so-called virgin swarms. In your answer you say they are not at all common. They are very common in this "neck of the woods." In fact, I always look for my early swarms to swarm in from 4 to 5 weeks after hiving, if we have any honey-flow to amount to anything, and I find my bee-keeping neighbors all have the same difficulty. To illustrate, I will give you the dates of a few of my first swarms this season, with date of virgin swarms. I clip my queens so that any swarm I do not wish to hive in another hive I can take the queen away from, and run the swarm back into the old hive again.

June 18, No. 84 swarmed. I hived it in No. 120, on old combs, and put on super. They swarmed out June 23. I run them back and put on another super. They swarmed out again June 27, 28, and 30. I run back again with old queen each time. Then I took a notion to know what was inside of the hive. I found both supers well started. One nearly half full. The outside brood-combs were pretty well filled with honey. There was some in all the others. There was some brood, but not a large amount. There were 8 capped queen-cells, and 3 not yet capped. They surely could not have swarmed for want of room. It was only 13 days from the day the swarm was first hived. The soonest I ever had a virgin swarm before was 19 days. This year I had 2 in 13 days. Now I will give you a list of 5 or 6 others:

June 6, No. 8 swarmed; hived in No. 15; virgin swarm July 7.

June 13, No. 1 swarmed; hived in No. 13; virgin swarm July 7.

June 15, No. 67 swarmed; hived in No. 83; virgin swarm July 2.

June 19, No. 2 swarmed; hived in No. 12; virgin swarm July 8.

June 20, No. 3 swarmed; hived in No. 11; virgin swarm July 3.

And to cap the climax, June 15, No. 17 swarmed, hived in No. 9, swarmed out every day for 6 days, then I changed hives, and gave them No. 33 with super. They went to work and in a few days I gave them the second super. They sent out a virgin swarm July 13, and the old colony No. 17 swarmed July 20, with young queen reared in the hive, the first young queen reared in the parent colony that I ever had lead off a swarm after rearing brood. She left the hive in about the same condition as to brood and honey as an ordinary prime swarm, and a super about 2-3 full of boney.

Two years ago I tried "shook swarming" to see if that would make any difference. I shook six swarms, and every one of them sent off virgin swarms within 25 to 36 days, so that did not help me out any. My bees are hybrids—common blacks and Italians mixed, with Italian predominating. Why do they swarm worse with me, or rather in this locality than elsewhere?

Of course, with virgin swarms I always have to kill the old queen and run the swarm back, then cut queen-cells to hold them together, for I would never do to let them separate at that stage of the game, and that is the way I treat all swarms after winter losses are made up, which nearly requeens the whole yard every year. MINNESOTA.

ANSWER.—I know only what I have learned, and it seems I have a good many things to learn yet. I am very glad to get this letter, for after reading it I'm not as ignorant as I was before. Now don't ask me why there is so much diffence in different localities; I don't know. In nearly 50 years' experience I'm not sure I ever had but one virgin swarm, and that was this year. A stray swarm came to me some time before May 25—that's very early for this locality—and I clipped its queen, counting that no further attention needed to be paid to it on the score of swarming. July 14 I noticed that it was very weak in bees, and on opening the hive I found no brood but some sealed brood, and the remains of several queen-cells, a virgin queen being present which began laying a few days later. I suppose a virgin swarm had issued with the clipped queen; she was either lost or destroyed, and a swarm issued with the first maturing virgin queen. I hardly expect to have another virgin swarm in the next 40 years, but I don't want to move into your neighborhood where virgin swarms are all the fashion.

Some Queen Questions.

I will first give extracts from my note-book, which I started on purchasing an apiary from a neighbor who had let the bees run themselves for a few years. I brought the bees home on April 17, from his cellar. Bad weather prevented me from going through them till May 6.

No. 13. May 5—good, brood in 3 combs, nearly full.
May 20—external indications, not progressing.
May 30—queenless, all brood hatched.
No. 16. July 1—swarmed, put in 13, on old stand, leaving 16 close beside.
July 20—looked for eggs. O. K., bees balled queen; poured a little syrup on them.
July 23—queen-cells; one capped.

1. Do queens sometimes suddenly stop laying and yet the bees do not recognize that they are failing and supersede, while there are eggs and larvæ in the hive; or what happened to No. 13's queen?

2. Is it not most unusual for a cell to be capped so quickly after loss of queen?

3. What ought I to have done when I saw the bees balling the queen, other than I did, pour a little warm syrup on them and close the hive? Honey was coming in fairly well, and I did not use smoke—just a whiff over the tops of the frames.

4. Would you use a cell from a colony under like circumstances? MANITOBA.

ANSWERS.—1. I doubt that a good queen ever stops laying when the workers want her to lay. Indeed it is a common thing in the fall for a queen to continue laying when the workers no longer hatch the eggs. The queen of No. 13 may have been accidentally killed May 6, or, as sometimes happens, the bees may have balled and killed her after you had the hive open.

2. Yes; and yet it was not so very much out of the usual. The cell was capped 3 days after the queen was balled. If it is 5 days from the time the egg batches till the cell is sealed, and if the bees selected a larva 2 days old, then in 3 days it would be sealed.

3. You did the right thing. When bees ball their own queen, if the hive be quickly and quietly closed, rarely does any trouble follow. If you want to be so careful as to guard against the rare case that sometimes happens, you can cage the queen and let the bees liberate her by eating out the plug or candy.

4. Yes, if the stock was good.

May Be Starved or Chilled Brood—Comb Foundation Splints.

1. We have 2 new colonies of bees. The brood from half to full grown is dead. The younger part of the brood and comb look all right. There is some honey. What is the matter? What will cure them? It has been wet all spring here.

2. Why do they carry out the young of all ages?

3. What is best to put over top-bars for winter and summer?

4. What do you mean when you say "splints in foundation?" MISSOURI.

ANSWERS.—1. It may be starved brood. It is possible that it is nothing more than chilled brood; although that is not so likely at this time of year. There is some reason to fear it may be that dreadful scourge, foul brood. I am not an expert on bee-diseases, and your best course, if you are a member of the National Bee-Keepers Association, is to send a sample to General Manager N. E. France, Platteville, Wis. If you are not already a member, send along a dollar to become one. It will be well for you to become a member anyhow, even if you have no disease.

2. It may be from starvation. It may be because the wax-worm has been at work on the brood-combs.

3. That depends somewhat upon the construction of your hives. A large proportion of hives nowadays are made with only about ¼ inch between top-bars and cover. These need nothing over top-bars but the cover. With a deeper space, cover with sheeting, enameled cloth, gunny sack, etc.

4. You probably know that wires are used to prevent foundation sagging in brood-frames, and to hold it in place. Well, in place of wires little sticks of wood, 1-16 inch square, running from top-bar to bottom-bar, are used. These are called foundation-splints.

Hives—Moving Bees to Cellar Them.

1. I have 8 colonies in 10-frame hives, and this winter intend to build new hives for next season's increase. Do you think I would find any advantage in using 2 cases containing frames 5⅜ inches deep for a brood-chamber, and a case of the same style for surplus (section) honey, or would you advise me to stick to the regular 10-frame hives?

2. I must move my bees about ½ mile to cellar them next winter. Last winter I hauled them on a wagon and put them in without a flight, and they wintered well. Do you think I could move them to a location close to the cellar before time to put them in winter quarters, without loss? If so, when would you advise me to do it—after the surplus honey-flow, or a little before time to cellar them?

3. If I moved them all but one colony at this time of the year, would not the bees returning to the old location all be saved by the remaining colony left on its old stand?

MAINE.

ANSWERS.—1. Doubtful, especially as you would have two sizes of frames and hives on hand. And yet it would hardly cost anything to make the experiment; for, after trial, if you should prefer the deeper hive, you could use the shallow ones for extracting. Some of our best producers do that very thing—use deep brood-chambers and shallow extracting-chambers.

2. You would probably have no loss by moving them after they had ceased to gather, but early enough so they will have a flight before going into the cellar. It might be all right to haul them and put them into the cellar immediately, without any flight, but I'm afraid it does harm, at least sometimes.

3. Yes, but the moved colonies would be terribly depleted.

Introducing Queens.

I received an Italian queen a few days ago in a large Benton cage. Having no other introducing cage, I placed the cage with the queen between the top-bars of 2 frames, removing one frame in order to make place for the cage. I placed it with the wire side down. In 30 hours I removed the old queen and also removed the paper covering from the candy. In 54 hours the bees had removed the candy,

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gaining access to the queen and killing her.

1. Did I do right in removing a frame in order to find room for the introducing cage? If not, how should the cage be placed?

2. I opened the hive when the queen had been in 24 hours, and also when it had been in 48 hours, when there was a very thin layer of candy left, which made me conclude that they would release the queen in about 6 more hours. Should I have opened the hive after removing the old queen?

3. Did I do wrong in removing the old queen 30 hours after putting in the queen to be introduced?

4. Should I have removed the old queen at the time of introducing the new queen? The colony I tried to introduce her into was a second after-swarm, 4 weeks old.

MINNESOTA.

ANSWERS.—1. It was all right; any way so that the bees could readily bobnob with the queen, and also get at the candy.

2. Opening the hive unnecessarily can do no good, and sometimes it does harm.

3. Nowadays those who favor leaving the old queen in the hive after the new one is put in rather favor about 3 days before the old queen is removed and the bees allowed to get at the candy.

4. It might have been safer.

It was only 24 hours from the time the old queen was killed till the bees were allowed to get at the new queen. That's a pretty short time for the bees to transfer their allegiance from one sovereign to another.

You removed the card-board from the candy. Instructions generally are to allow the bees to gnaw the card-board away.

Hiving Swarms — Bees in Sun or Shade? — Metal Hive-Covers— Propolis Knife—Chaff Cushions.

1. What is the best way to get a swarm of bees into a frame-hive?

2. I read in Gleanings that bees do better in the sun than in the shade. Is that so?

3. Are metal-roof covers for hives with inner covers better than wooden covers? If so, why?

4. What is the best kind of knife to use for scraping propolis off of sections taken from the supers?

5. What is the best way to make chaff cushions for hives to winter bees in?

NEW YORK.

ANSWERS.—1. If you mean to hive a swarm, it is hived in a movable-frame hive just the same as in a box-hive. If you mean to transfer from a box-hive into a frame-hive, wait till the colony swarms and hive the swarm in the improved hive. Then 21 days later all worker-brood will have emerged, and you can cut up the old hive and melt the combs.

2. There may be some locations where bees do better in the sun, but hardly in yours or mine. I take a good deal of pains to have mine under the shade of trees, more for the comfort of the operator than of the bees, and yet the bees do very well, thank you.

3. Their chief advantage is that they are always rain-proof.

4. At our house we use a cabinet scraper such as cabinet-makers use, and also sand-paper. This for the tops and bottoms of the sections while they are all in a block. Then what little scraping is needed after the sections are taken apart is done by a common case-knife kept pretty sharp.

5. Make a plain bag a little larger than the size of the required cushion, closed on all sides except enough of an opening on one side to admit the "stuffing." At each corner sew a straight seam as long as the depth of the cushion. Don't sew it with the bag lying flat, for that would spoil the shape of your cushion. Instead of that, pinch the cloth together sidewise at each corner, making a seam that will be vertical in the finished cushion, making the cushion box-shaped. Fill the cushion and sew up the hole.

Unsealed Cells of Honey.

1. I have 12 colonies, all doing fine but one—my best colony. It is in a home-made frame-hive. In the spring they went to work nicely. In April I put on a super. They filled it with comb in a short time, filled one side of comb with honey, and sealed about two-thirds of the cells all right. The unsealed cells are about half full of honey. When I raise a frame to examine it, the honey will commence to blubber. Five weeks ago I took out 5 frames of the partly-filled combs, took out what there was in them, and put 3 inches of foundation in the returned frames. They went right to work and filled the frames with comb and honey, but have sealed only a part of the cells. What is the matter with the bees, and what can I do? There has not been much swarming this year.

OKLAHOMA.

ANSWER.—The probability is that there is nothing wrong with the bees, but something wrong with the honey. I don't know what it is, but some plant is yielding honey that behaves badly. There is probably nothing you can do about it except to wait till the bees get through bringing in that kind of honey, and then get it out of the hive, for it is not likely it will be good for bees to winter on. If only a small amount, the bees may use it up before winter.

Foul Brood Not from Comb Foundation.

1. We have 8 colonies of bees—4 new ones. This year is the first I have used comb foundation. My new colonies have foul-brood. Is it likely that they got it from the foundation?

2. Can I save any part of these hives, or is it best to burn everytning?

3. Will they winter in this condition or is it best to change them now?

MISSOURI.

ANSWERS.—1. No case, that I know of, has been reported in which the disease was carried by foundation, and it is asserted very positively that it can not be thus carried. The long continued heating of the wax when made into foundation prevents any such occurrence.

2. The hives may be used again, but not the frames.

3. They can winter as they are.

Where Did the Honey Come From?

The alsike clover has blossomed very much here this year, and I have noticed that very few bees were on it. I have examined the clover and found that there was some liquid in it. Now, was this water or nectar, as the bees did not take to it, and there is also no seed in same?

I have 4 colonies, extracted 150 pounds, and have 48 pounds of comb honey from them. I can not understand where all this comes from, as they did not get it from the alsike, and there are very few different flowers to get it from except some white clover.

WISCONSIN.

ANSWER.—Very likely any liquid you found in alsike blossoms was nectar, unless it was rain or dew. I have 2 pieces of alsike that bloomed bountifully at the regular time, but scarcely a bee was to be found on it. Either there was no nectar in it, or the bees had so much to do on white clover that they could give little attention to the alsike. I suspect the latter, and it may have been the same with you.

Double Hive-Covers — Hive Weights for Winter—Foul Brood.

1. I have some ventilated or double covers which are recommended so strongly for the climate in California, but I believe that even here in California the bees would be better off with all the sunshine possible for any way 8 months of the year. Now if I am right in that, then a single plain cover and the use of shade-boards would be preferable to the double cover.

2. I have a few colonies in old hives and on old combs which are not of much account (the combs, I mean). Now in the fall I would like to put these bees on good combs. I run for extracted honey. Would it do for me to fill the brood-chamber with nice, new, empty combs, and put the super with the old combs containing the honey for winter supply on top of it? I am at the same time going to put in young queens, and thought by giving all new combs I would give them a good chance to do some work in the fall as well as early next spring.

3. What should be the weight of a 2-story 10-frame Langstroth hive with 45 pounds of sealed honey for winter supply? How much difference in the weight of new and old combs?

4. Does foul brood disappear during a heavy honey-flow to show up again the following spring in the same colonies? CALIFORNIA.

ANSWERS.—1. There doesn't seem much difference between ventilated covers and plain covers with shade-boards; but perhaps your idea is to use the shade-boards only part of the year. I don't know, but I think I would prefer the ventilated covers. But if your own experience tells you differently you should be guided thereby.

2. Your plan ought to work all right.

3. I have no such hives to weigh, and so can not give you weight. If you haven't one convenient to weigh entire, you can weigh some of the parts, and weigh a single frame, and then estimate.

The difference between the weight of a new and an old comb is a constantly varying quantity. A new comb may weigh about half a pound, and gradually increase in weight with each year until it weighs 3 times as much, and then it may still keep on increasing.

4. Yes, it may disappear to all appearance, although the seeds of disease are there all the while.

Feeding Granulated Sugar for Winter Stores.

I have 3000 pounds of granulated sugar which I wish to feed the bees for winter stores. Is it as safe to feed beet-sugar as cane sugar? I think this I have is beet-sugar. How should I mix it, half sugar and half cold water? Please give me any advice you think would be of use to me. IOWA.

ANSWER.—Opinions differ. Some think best to feed early and thin; but lately there seems a tendency to feed later, half and half. Quite late it may be 2 parts water to 5 of sugar, fed warm. In England they insist that cane sugar is greatly to be preferred to beet. In this country there seems no preference, and it is doubtful if there is any way by which one can be sure of having pure cane and not beet sugar. Of course I am referring in either case to granulated sugar.

Brood and Honey in Same Frame— A Nucleus.

1. Do bees deposit honey and brood in the same frame, or do they use so many frames for brood and so many for honey?

2. Is a 2-frame nucleus 2 frames covered with bees on comb, with brood in the comb?

CONNECTICUT.

ANSWERS.—1. Yes, you will find brood and honey in the same comb, brood in the central and lower part, honey above and at each end. In the height of the brood-rearing season you will find that an extra-good queen may have one or more of the central combs so filled with brood that scarcely a cell of honey—is in the frame. The outside frame at each side may be almost entirely full of honey and pollen. As the season comes to a close, there will be more and more honey in the frames, and the brood will be correspondingly contracted, until the queen ceases to lay.

Frames Built Together—Apifuge— Extractors and Extracting.

1. Last spring I bought one colony of bees, and got 2 swarms from it. Now both hives are full of honey, but the frames of the old hive stick together badly. To cut them loose with a knife will kill scores of bees. What is best to be done, and how often should I take the frames out to prevent this?

2. In what part of the hive can I find the queen? I am a beginner and never saw a queen except in a picture.

3. I have a box-hive and would add the bees to another colony. Must I kill the queen in the box-hive, or will the bees of the other hive do it? I think this is difficult, because I can not take the frames out to look for her.

4. I read in my bee-book about apifuge. What is it? Will it really keep bees from stinging?

5. If a person has no extractor, what is the best way to clear the honey of comb?

6. Does a one or 2 frame extractor work as well as a larger one? What kind should I buy for a dozen colonies?

There is no other apiary in this whole country so far as I know, and I depend upon the American Bee Journal for my information. The "Question-Box" is a great help to beginners. WASHINGTON.

ANSWERS.—1. There is no way to avoid killing some brood when cutting apart the combs, unless you do the work at a time when there is no brood present. There will be less of it now than earlier in the season, but more honey in the way. In fruit-bloom is a good time, because then there is not so much of either brood or honey. Once straightened up in good shape there ought to be no need ever to take them out so far as concerns their being built crooked.

2. The queen may be anywhere in the brood-chamber, but is most likely to be found on the brood. Don't give much smoke, handle the frames quictly, and look them over one after another, and you'll be likely to see her ladyship.

3. The bees will see to killing one of the queens, and perhaps to killing one another. Some dredge the bees thoroughly with flour

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when thus uniting. Some sprinkle with sugar syrup, taking care not to start robbing. Some smoke both lots thoroughly, dumping those to be united in front of the hive, first a few close to the entrance, and then the others farther out. A good way is to put in the frames alternately, first from one hive, then the other.

4. Apifuge is the name of some combination of drugs, which combination is not made public, and is advertised and sold in England. I don't remember its being advertised or used on this side. It probably helps to prevent stings. I have seen it claimed that oil of wintergreen rubbed on the hands would prevent stinging.

5. I know of no way to get the honey out without spoiling the comb except by an extractor or by letting the bees empty the comb. If the comb is not to be saved, then it can be melted, using only enough heat to melt the comb, letting it cool and then taking off the cake of wax.

6. The small extractor does as good work, but of course does not do as much work in a day. A 2-frame extractor will be all right for a dozen colonies.

Pollen for Winter—Chunk Honey in Jars—Concrete Winter Cases.

1. I have 6 colonies of bees. I took out 90 pounds of surplus honey from the best colony, and one superful is on yet, but the lower half of the extracting frames are chock-full of pollen. I am thinking of leaving this super on during winter, as it is a large colony and the bees have no room in the lower story. Will that pollen do them some good during winter?

2. Can honey which is cut out with comb and put in glass jars be stored away for winter use?

3. How would concrete do for winter-cases, if the walls were about 1½ inch thick, where the coldest days are 32 degrees below zero?

MINNESOTA.

ANSWERS.—1. No, the pollen will not be likely to do any good, neither any harm. Bees do not consume pollen to any extent except when active. But when they commence rearing brood in the spring it is absolutely necessary.

2. Yes, except that it is more likely to candy than if left uncut.

3. The probability is that it would not do very well.

Weak Colonies and Moths — Transferring.

1. In case you have some weak colonies, what is the best remedy for moths?

2. What would you do in case they got to robbing one another?

3. Would it be all right to put them in a building through the winter?

4. Suppose 2 swarms come out in one day and both are weak. Would it be a good plan to put these 2 together and kill one queen?

5. My grandfather had 23 colonies at his death and I took charge of the bees. All died except 3 colonies, and last spring they sent out 11 swarms. They are in common box-hives and the comb is crooked. What would you do with them? They are doing well and are strong colonies with the exception of 2, and the moths are bad. I have to clean them out every morning. What is the best plan to kill the moths?

SUBSCRIBER.

ANSWERS.—1. No remedy for moths is better than bees, plenty of bees. Strengthen weak colonies by doubling up till they are strong.

2. The comon thing is to contract the entrance, so the bees can better guard it. Straw or hay piled up and kept wet about the entrance discourages the robber-bees. But prevention is better than cure. Be careful not to do anything to start robbing. Don't let combs of honey stand exposed. A weak colony especially a queenless, is a temptation to robbers. Unite it with another having a good queen.

3. No, unless the building is underground, or there is some way to keep a constant temperature of about 45 degrees.

4. Yes, only you needn't take the trouble to kill one of the queens. The bees will see to that. However, if one should be of better stock than the other, it would be well to kill the poorer queen. But again prevention is better than cure, and you ought to have no weak swarms. Don't allow any swarms after the first swarm.

5. Let them stay in the box-hives till they swarm next year, and 21 days after swarming the worker-brood will all have emerged, when you can cut up the hives, unite the bees with the swarm, and melt up the combs. There's no patent way of killing moths, just mash 'em. But depending upon strong colonies to keep them under, especially if you have Italians. Introduce Italian blood in your apiary, and even a weak colony will keep down the moth.

Mating Italians with Blacks—Clipping Queens' Wings.

1. I have some Italian queens. If I rear queens from them and allow them to be mated with black drones, or those with a little cross of Italian in them, will the drones from those queens be Italians good enough to breed from? I have been told that they would be as good as if mated with the pure-bred Italian queens.

2. If I clip one wing of my queens will it do as well as to clip both? Will the queens do as well as if not clipped?

KENTUCKY.

ANSWERS.—1. Dzierzon taught that the mating of a queen has nothing to do with her drone progeny. That looks reasonable from the fact that only the eggs that produce queens or workers are fertilized. Some insist that in some way the drones are also affected by the mating, but certainly it can hardly be anything appreciable.

2. It is better to clip the 2 wings on one side. Then when a queen tries to fly it tumbles her over sidewise. A clipped queen does just the same work as if not clipped.

Honey in Winter Brood-Chamber—Incubator for Bees—Honey-Knives.

1. How shall I proceed to get enough honey into the brood-chamber for wintering? You will remember I wanted it out of the brood-chamber in the spring. I got it out in the worst case I had, by replacing the old queen with a young and more vigorous one, as you advised, but it was done later than it should have been. I have had trouble in having honey distributed in too many half and quarter filled frames in the fall. The bees would not put it below, or "bulk" it. Dzierzon is reported to have said, "Keep honey out of the brood-nest in winter." He meant out of the cluster. The reason given was that it gave the bees cold feet. If this is preferable, must we tier up or put 2-story hives in the cellar and most of the honey in the upper one? Mine are Danzenbaker hives, only they are 2 inches deeper than his. How would it do to add 2 inches below each hive for clustering space between hive and bottom-board when there is much honey in the brood-chamber? I made new bottom-boards 2 inches deep at the entrance, tapered to nothing in the back, and use no slats underneath as you do. I had a few bits of drone-comb of little account built below, and eggs put in some of them, but prefer the open, deep entrance for hot weather. I dislike your slats below, as they harbor moths when preparing for their change. I found a moth in the other day penned up in a hole cut by himself into a solid top-bar, and only his head visible from his nearly completed retreat. With one-story hives in the cellar there are fewer combs to get moldy, not to mention saving room.

2. What is the exact number of days between the first showing of the brown streaks on the top of the head of the worker-bee in the cell, and the day of her coming forth as a perfect bee? In introducing queens on hatching brood, it is well to know this, and we can't find it in the books, and it would take too much time to work it out.

3. What do you think of an incubator for bees in the spring? I tried an experiment on one colony last spring that may be interesting. One of the colonies had lost its queen, and a friend gave me a queen that had lost nearly all its bees. I put her in the hive that had bees enough to cover 3 frames. When I took them out of the cellar I put them in the living room or kitchen of the house with the entrance out under the window, and 2 or 3 weeks later (too late) I thought to set a lamp under them at night, or whenever there was a bad wind. I had nailed on a half-inch bottom-board, cut from the heart of a big log on one side of the heart, like the old-time split shingle, that would not split with the heat of the lamp and poison the bees with its smoke or fumes, and then the wick from a small lamp turned up a very little way made things so comfortable that everything was soon going finely. I suppose I may as well give you all the details of the whole story, so that some one may avoid any blunders. When the weather got warm I moved the hive half out of the window, and the next day all the way out, and the next day the width of itself sidewise. We read about the intelligence of bees, but in some ways they can be anything but intelligent. They were bound to return to that window. So I determined to move them far enough next time, and moved them to a scaffold that projects above another roof, till one day I opened the hive and everything was going well, but the queen had run out of the entrance, and one of her wings being clipped, she fell onto the roof some 3 feet below, and I stepped on her, and though I returned her to the hive I never saw her again. Her bees started a dozen queen-cells, and seeing so many good cells capped over and from a good queen, I decided to give them two chances to save some of her blood, so I divided them up, and one of the colonies in a Danzenbaker hive of 9½-inch deep frames has bees and white honey enough to winter on, and can spare a frame of honey into the bargain, and must have a super at once if the weather comes good for the buckwheat. The other colony, however, occupying the old stand, seems to have got less bees in the dividing, so I gave them a frame of brood from a very strong colony, and expect them to be well fixed for winter.

Since writing the above I have examined this colony and find it better than the first one of the two. It is just boiling over with bees and brood, and honey galore. It must have a super to-day.

4. Is it a common occurence for a queen to go out at the entrance of her hive when it is being examined? This is not the first time it has happened with me.

5. When writing to you before I intended to make some remarks as to the *seeming* combination of the editorial staff of the bee-papers not to allow criticism in their papers. One of them informed me that he had no room for criticisms, at the same time acknowledging that there were statements made in his paper that were "rather wild." Now, why do they not shut out these "wild" statements, or allow them to be pointed out? Is it because their papers are more and more run in the interests of advertisers, and *no one regards the truth when the money for the advertisements is at stake?* The meeting of the many editors at the conventions, where every one desires to please and he pleased, no doubt has also an influence, but an association, whether of bee-keepers or bee-editors, that prefers the dimes and falsehood rather than the truth, in spite of what becomes of the dimes, ought to go to wreck, and the sooner the better. We find the Review editor differing from the advertiser of uncapping knives as to the need of inserting them in hot water to do the proper work, and he gives Mr. Bingham plenty of space in his defense to "put his foot in it." Here is a point that shows his knives to be better able to cut butter while hot than when cold, than anything Mr. Hutchinson could say. Mr. Bingham says he uses an ordinary scythe-stone for sharpening his knives. This goes to show that his knives are too soft to take a good edge, or they would be ruined by his scythe-stone. I have fought out this thing with Mr. Bingham privately, but to no purpose, and I have a good old "Rogers" jacknife with which I could cut holes clean through a Bingham knife, which I am sorry to say I possess. Let him harden his knife till it will take a good edge on a "Wachita" or "Washita" oilstone, and then the bee-keepers and himself will be, or ought to be, thankful to me for having written this letter. I have been engaged in sharpening tools nearly every well week-day for more than 50 years.

Another point Mr. Bingham will make by taking the advice given will be this. He will have less trouble removing the wax from the knife edge that he now complains of, for when he, by properly hammering and hardening, makes it capable of taking a fine oilstone edge, he will have fewer teeth like a saw to collect the wax on the edge while in use.

ONTARIO NOVICE.

ANSWERS.—1. I think it is true that with a small space under bottom-bars and bees wintered out, solid frames of honey with no empty cells in the middle of the brood-nest might mean death to the bees. The bees can not get together in mass sufficiently solid to keep one another warm. The case is not so bad in mild climates, or in the cellar. But up in Canada some of the successful ones advocate solid combs of honey. With the deep space under your combs there is room enough for the bees to cluster under the combs, and thus keep warm.

Your question is how to get in compact form the honey that is scattered through the frames. Generally as the season draws toward a close, especially if there is a fall flow, the matter takes care of itself; the brood-nest gradually diminishing and the honey crowding upon it. In any case, you may rely on the bees to take care of the matter and have the honey in the right place, *if there is enough honey in the brood-chamber.* But you may have

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honey scattered through more frames than the hive will contain. A good way is to prepare for that in advance, by having a number of combs of solid honey, and exchanging them for those partly filled. Rather late to talk about that now, but you might take the hint for next year. If you haven't these full combs now, the thing to do is to get the bees to empty part of the combs, storing the honey in the others. They'll do that most readily if you expose in the open air the combs to be emptied. Even if the colonies that need it most don't get it, you can take from those that have the lion's share and give to the needy.

But it may be that your neighbor's bees would get more than yours if you fed in the open. Then put the combs to be emptied in upper stories, and let the bees carry down the honey. It will hasten matters to mash the cappings of all sealed honey, and to make the combs as dauby as possible. Also to cover a cloth over the lower story, leaving only a small place for the bees to get to the upper story.

2. "On the 16th day, the several parts have become fully developed; and the eyes begin to assume a brownish hue."—American Bee Journal, Vol. 1, page 11. From that it seems she should emerge in 5 days or so after the laying of the egg.

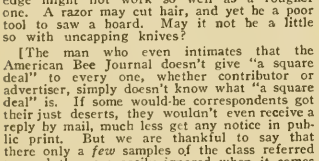
3. Your performance may be interesting, just for the fun of it; but I doubt its being a profitable thing.

4. No,it is not a common thing. I never knew it to happen unless the bees were so excited by smoke or otherwise as to rush out of the hive in a body; a condition of affairs that hardly ought to happen under proper management.

5. I don't believe there's any combination among editors to shut out any writer. Neither would it do for them to work solely in the interests of advertisers. If any bee-paper does so it is making a serious mistake, for beekeepers are rather a bright lot, and will patronize a paper only so long as they think said paper is in the interest of its readers. A paper must first hold its readers before it can hold—yes, before it can get—its advertisers.

I don't know a great deal about uncapping knives, but I know good men differ as to having them hot or cold. I suspect, too, that under certain conditions the very smoothest edge might not work so well as a rougher one. A razor may cut hair, and yet be a poor tool to saw a board. May it not be a little so with uncapping knives?

[The man who even intimates that the American Bee Journal doesn't give "a square deal" to every one, whether contributor or advertiser, simply doesn't know what "a square deal" is. If some would-be correspondents got their just deserts, they wouldn't even receive a reply by mail, much less get any notice in public print. But we are thankful to say that there only a *few* samples of the class referred to, and they are easily ignored when it comes to putting their sarcastic and egotistic writings in print.—EDITOR.]



Pretty Good Honey Crop.

The honey crop here is pretty good this year. I wintered 5 colonies, in good condition last winter. I increased them to 9 colonies, and took 642 pounds of fine honey, which I think is good from only 5 colonies. I sold the honey here at home at 7 cents per pound; and now the bees have stored enough for winter.

S. ENGEBRETSON.

WESTBY, WIS., AUG. 15.

The Queen and the Swarm.

I see Mr. Erickson has settled the question as to whether the queen comes out first or last with the swarm. He says, (page 240) that after the queen has taken a look at the weather she returns, and all the bees on the outside, as well as all on the inside of the hive, turn their heads in the direction of the queen.

I can understand how he could tell when all on the *outside* had their heads in the direction of the queen, if there were not too many outside, but how does he know about those *inside*?

Then he says the queen gives two or three yells, and makes for the entrance with the swarm close at her heels. This means that the queen leads all of the swarm that is on the inside of the hive at the time the queen makes her break for fresh air.

Well! Well! no doubt "locality" accounts for a great many things, but I never dreamed that it "cut any ice" in this matter.

I had a very vicious colony of hybrids and decided to catch the queen when they swarmed, and give them a better one. To this end I put a queen-trap on, but as they did not swarm for several days, and the trap seemed to interfere with the bees, I took it off. The next day I happened to go around to the bee-yard in time to catch them swarming. More than half the swarm was out, and they were still coming in a stream 14 inches wide and an inch deep; but I went to some distance to a colony, took off a trap and knocked off a pint of bees, and returned when fully four-fifths of the bees were in the air, and still got my trap on in time to catch the queen.

I have tested this thing before, and the queen is just as likely to be among the last as first, if not more so; and I have found the queen on the outside of the cluster when hiving swarms.

J. D. ROWAN.

TUPELO, MISS., AUG. 14.

Not Much Nectar.

The bees are working in the supers, but not much nectar is coming in, as it is too dry.

E. CARLYLE GOLDSMITH.

PONO CREEK, OKLA., AUG. 12.

A Beginner's Report.

I commenced bee-keeping last fall by the purchase of 5 colonies which came through the winter all right. I lost one colony by its being robbed early in the spring while feeding. I then purchased 6 more colonies which I have increased until now I have 28, using the first swarms for getting surplus honey. They have produced about 400 pounds, which I will feed back in September to those that are too weak.

P. W. NICOLLE.

MAPLETON, OREG., AUG. 8.

Only One-Third of a Crop.

The bee-keepers' season in this valley is far enough advanced to indicate that the yield per colony will not be more than one-third of last year. This is due partly to over-stocking of some of the ranges, and partly to a parasite that is getting the honey from the alfalfa, known, I believe, as the alfalfa-bloom louse.

A great many bees—estimated at 4,000 to 5,000 colonies—were brought into this (Imperial) valley during the past winter, and there is much disappointment in results obtained.

J. B. WHITAKER.

EL CENTRO, CALIF., JULY 29.

Poorest Season in 25 Years.

If it is of any interest to the fraternity to know where the honey crop has been light this season, you can tell the brethern that it has been the poorest season around Hudson, N. Y., in 25 years. The bottom dropped out of the flow about July 4, in a most unexpected and unaccountable manner. It was not from drouth or wet or a dearth of clover root, but simply because there was no nectar in the flowers. We have been hoping for a fall flow, but dry weather is blighting our hopes again. But after the cheerful manner of the fraternity, we are reaching forward hopefully to next season.

HUDSON, N. Y. AUG. 22.

JAS. MCNEILL.

Bee-Keeping in Missouri.

I am a reader of the "Old Reliable," and have been for years. No department interests me as does "Reports and Experiences," except it be "Dr. Miller's Question-Box." Yet I appreciate and enjoy reading every page, even the advertisements.

Missouri, while producing a large amount of honey, as statistics will show, is not noted, I believe, as a great honey-producer, from the fact that so few of her apiarists are up-to-date in their methods of management. It has taken me some 10 years to find out that it pays to handle bees in an up-to-date manner; but experience is a great teacher, and I have learned to do things right.

The season has been excellent here so far, with great promise to the end. The weather was rather wet the first of the season, which only served to bring out the great crop of dandelion and white clover, which exceeded any crop we ever saw.

I started in with 16 colonies last spring, and increased to 30, by natural swarming. I am one who thinks it is hard to improve on Nature.

I have taken close to 500 pounds of fine honey, and the hives are full again. I put one swarm into a 10-frame Wisconsin hive, and in just 4 weeks I took off 28 sections of fine honey. This, I think, is a good record.

Goldenrod and Spanish-needle are now beginning to bloom, and the indications are good for a good flow. I have a home market for all the honey I can produce at 12½ cents, for either section or chunk honey. I extract none.

H. S. CARROLL.

LENTNER, MO., AUG. 15.

A Good Honey Season.

There was a good flow of nice white honey here; bees swarmed freely. Good colonies averaged 100 pounds or better when given care.

HUGO ZACHGO.

DANFORTH, ILL., AUG. 25.

He'll Make a Bee-Keeper.

I am a 13-year-old boy. A stray swarm of bees came to our place this summer and settled down in an old salt-barrel on our place in a grove. I thought I would like to learn something about bees, and maybe by having this swarm to start with I might get an "apiary," as I see the Journal calls it. I bought some white Wyandotte eggs a year ago, and I just sold a few hens this week, and have a little money, so I will send enough for a year's subscription to the American Bee Journal. Maybe it might help me not to get stung too much. I am not very much afraid of bees, and people say that a man that is not afraid is not likely to get stung; but I want to be on the safe side and learn something anyway, so here goes my money.

SIGURD W. RIKANSRUD.

Kanawha, Iowa, Aug. 22.

Double Zinc—A Correction.

This summer for the first time I was for certain reasons compelled to have on hand quite a few very small colonies. These were each in one section of our divisible brood-chamber hive, with an average of 4 drawn combs apiece. From the beginning, however, there was no end of trouble from some of the good colonies in the way of plundering. At last, the plan of doubling them up with zinc between was given a trial. The force of guards appearing at the entrance of these double colonies almost equaled some of the best in the yard. Not only was robbing effectually stopped, but the upper ones averaged drawing out a frame of foundation each 48 hours. Yes, and some of these small colonies gave a nice little surplus of section honey.

When only strong colonies are in the yard, this 2-queen plan may not be of great value; but in building up weak ones, many advantages can be found. What I wished to say, however, was that at a time when the bees are disposed to quarrel, the best preventive that I have found when putting them together is to use at the start 2 sheets of zinc having a bee-space between. There is no danger of their fighting under such circumstances, and one of the excluders may be removed in one or two days to provide for freer communication.

I wish to call attention to an error in my article in the July issue, page 208, in which I am made to use the word "agriculture" when "apiculture" would have been correct.

FT. SMITH, ARK. LEO. E. GATELEY.

Avoiding Weak Colonies in Spring.

How to avoid weak colonies in the spring is a problem which a New York bee-keeper thinks he has solved. In fact, by his plan he has the strongest and most populous kind of colonies ready for work on the early fruit-bloom in the spring.

The bee-keeper referred to has recently been in the habit of spending the winters in Florida, and last fall, as an experiment, he took 60 colonies of bees with him by steamer from New York to the State of Florida at a cost of one cent a pound for freight. As the hives with contents averaged about 25 pounds each, the cost was but 25 cents per colony.

The 60 colonies increased during the winter to 120, but they stored no surplus worth mentioning. The 120 strong colonies were brought back North in the spring in time to work on the earliest fruit-bloom, and these 120 strong colonies in the early spring were considered ample return for the expense and trouble, even though no surplus honey was secured during the winter South.

Now it is a question whether this can be

American Bee Journal

accomplished regularly every year, but the fact that it was a success at the first trial leads me to think that it may become a profitable business for those bee-keepers who spend their winters in the extreme South. Of course, if a man went South merely to care for the bees it probably would not pay.

F. D. CLUM, M. D.

CHEVIOT-ON-THE-HUDSON, N. Y.

THE CALIFORNIA FRUIT PRODUCTS COMPANY of Colton, Calif., will mail 3 colored Souvenir Post Cards free to any one who will write them, and also to any friends whose names and addresses you may enclose. But be sure to mention the American Bee Journal when writing. The output of canned fruits of Colton equals about 2,000,000 cans for this season, with a large quantity of dried fruit, honey, and nuts.

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Honey as a Health-Food.—This is a 16-page honey-pamphlet intended to help increase the demand for honey. The first part of it contains a short article on "Honey as Food," written by Dr. C. C. Miller. It tells where to keep honey, how to liquefy it, etc. The last part is devoted to "Honey-Cooking Recipes" and "Remedies Using Honey." It should be widely circulated by those selling honey. The more the people are educated on the value and uses of honey, the more honey they will buy.

Prices, prepaid—Sample copy for a 2-cent stamp; 50 copies for 70 cents; 100 for $1.25; 250 for $2.25; 500 for $4.00; or 1000 for $7.50. Your business card printed *free* at the bottom of front page on all orders for 100 or more copies. Send all orders to the office of the American Bee Journal.

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Covert, Kans., July 30, 1908

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Headquarters National Bee-Keepers Ass'n, Oct. 13, 14, 15, 1908.

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It costs more to produce such honey, there is not so much of it, and it is worth more than the ordinary honey; just as the big Northern Spy apples, streaked with crimson and filled with juicy spiciness, are worth more than ordinary fruit.

As a finishing touch, the honey is put up in bright, new, 60-pound cans, securely boxed, and the boxes bound with iron so that they will bear shipment; in fact, I will guarantee safe arrival in perfect condition.

For a single 60-pound can the price is $6.25; for two cans in a case (120 pounds) the price is $12.00 a case, regardless of the number of cases that are taken.

If you are not acquainted with this honey, send me 10 cents and I'll mail you a generous sample, and the 10c may apply on the first order that you send.

W. Z. HUTCHINSON, Flint, Mich

BARNES' Foot-Power Machinery

Read what J. I. PARENT, of Charlton, N. Y., says: "We cut with one of your Combined Machines, last winter, 50 chaff hives with 7-in. cap, 100 honey-racks, 500 brood-frames, 2,000 honey-boxes, and a great deal of other work. This winter we have double the amount of bee-hives, etc., to make, and we expect to do it with this Saw. It will do all you say it will." Catalog and price-list free.

Address, W. F. & JOHN BARNES, 995 Ruby St., Rockford, Ill.

Mention Bee Journal when writing.

Engravings For Sale

We are accumulating quite a stock of engravings that have been used in the American Bee Journal. No doubt many of them could be used again by bee-keepers in their local newspapers, on their stationery, or in other ways. Also, if we can sell some of them it would help us to pay for others that we are constantly having made and using in our columns. If there is any of our engravings that any one would like to have, just let us know and we will quote a very low price, postpaid. Address,

GEORGE W. YORK & CO.

CHICAGO, ILL

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For Over Twenty-Five Years

our make of goods have been acknowledged to be in the lead as regards **Workmanship** and **Material.**

Our **Air-Spaced Hive** is a most excellent winter hive, and convenient for summer management as the single-walled. Same inside dimensions as regular Dovetailed Hives; all inside material interchangeable with Dovetailed Hives.

We manufacture a full line of **Bee-Keepers' Supplies.**

Fall and winter discounts:—Sept., 7 per ct.; Oct., 6 per ct.; Nov., 5 per ct.; Dec., 4 per ct.; Jan., 3 per ct.; Feb., 2 per ct.; Mar., 1 per ct. Catalog free.

W. T. FALCONER MFG., CO.
Jamestown, N. Y.

Our Supply Business Has Been In

New York City

for 15 years. It has increased each year. We want YOUR order this year and will quote you attractive prices. Our prices are f. o. b. cars here. We furnish bees in any quantities. Have seven hundred colonies in our own yards. Catalog free. Colony of Ital. bees in new hive, $9. Ital. queen, $1.

I. J. STRINGHAM,
Apiaries, Glen Cove, L. I. 105 Park Pl., N. Y. City
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Headquarters for Bee-Supplies

ROOT'S GOODS

At Root's Factory Prices

Honey Wanted

Fancy white clover Extracted. State how it is put up, and the price expected, delivered Cincinnati.

C. H. W. WEBER CINCINNATI ...OHIO...

Office and Salesrooms, 2146-48 Central Ave. Warehouses, Freeman and Central Aves.

Honey and Beeswax

CHICAGO, Aug. 24.—The receipts of honey are liberal, and the receivers of it are finding great difficulty in disposing of the same, so the market is quite demoralized; that is, houses that do not make a specialty of honey are receiving rather liberal consignments, and, not finding customers for it upon arrival, are offering it below recent quotations. We now quote A No. 1 to fancy comb, 13 to 14c; with other grades from 1 to 3c per pound less. White extracted, 7 to 8c; amber, 6 to 6¼c; dark, 5 to 5¼c. It is a little early for consumption to commence, and those of us who understand that are storing the receipts, hoping that with September the demand will come. If the consumers get an idea that the crop is a large one, and the prices low, they will call for it. Beeswax is steady at 30c.

R. A. BURNETT & CO.

CINCINNATI, Aug. 24.—Extracted honey for which there is a fair demand but not a high price, is selling, amber in barrels, at 5 and 5¼c; white clover 7½c in barrels, and 8c in cans. Comb honey, for which there is practically no demand, is selling at 14c. Beeswax is slow at 33c. These are our selling, not our buying, prices. C. H. W. WEBER.

LOS ANGELES, Aug. 27.—Honey quotations are as follows: Light amber, 5c; white, 5 1-2c; water-white, 6 1-2c. Beeswax, 23c. In many locations the crop has been a failure. There will probably be very little honey in this section. H. J. MERCER.

KANSAS CITY, Sept. 3.—The receipts of comb honey are light; in fact, our demands are heavier than our receipts. The receipts of extracted are light; demand fair. We quote No. 1 white comb honey, 24-section cases, $3.25; amber, $2.75 to $3.00; white extracted, 7 1-2 to 8c; amber, 7 to 7 1-2c. Beeswax, 28c. C. C. CLEMONS & COMPANY.

ZANESVILLE, OHIO, Aug. 24.—Considerable new honey is now arriving on this market. For clover honey jobbers are offering 13c for fancy and 12c for No. 1. The wholesale price is scarcely established. There is a much-improved demand for native honey, but scarcely any for the imported. Extracted in small retail packages is moving slowly. Beeswax 29c on arrival.

EDMUND W. PEIRCE.

DENVER, Aug. 25.—Crop in Northern Colorado is almost a failure. There will be but little more than what the home market requires. We quote No. 1 white comb honey in 24-section cases at $3.15; No. 1 light amber, $3.00; No. 2 at $2.85. Strained and amber extracted, 6¾ to 7¾c; light amber, 7½ to 8¼c; white, 8 1-2c. We pay 24c per pound for clean yellow beeswax delivered here.

THE COLO. HONEY PRODUCERS' ASS'N.

INDIANAPOLIS, Aug. 22.—There seems to be a good demand for best grades of both comb and extracted honey. Prices are still irregular, but producers are offering fancy white comb at 12¼c; No. 1 white at 12c; and best extracted, in 5-gallon cans, at 7c. Almost no demand for amber grades. Many producers are holding for higher prices, but the tendency in this market is for still lower prices. Beeswax is steady at 28c spot cash. WALTER S. POUDER.

NEW YORK, Aug. 26.—New crop of York State comb honey is now beginning to arrive in small quantities, and quality appears to be very fine, especially so of choice white stock. While our market has not opened up as yet, and will not open up before about the first week in September, prices are unsettled and uncertain. We are having some demand for fancy and No. 1 white at prices ranging from 13 to 15c, according to quality and style of package. No new buckwheat honey on the market as yet, but we are informed that the crop will probably be quite large. A great many bee-keepers seem to think that comb honey ought to sell at the same price as last year and before, not taking into consideration the fact that comb honey is a luxury and not a necessity; nor do they seem to take into consideration the general depression in business. We do not expect as good a demand as last year, nor do we think that last year's prices can be realized. Arrivals of extracted honey have been quite free from the West Indies and the South, and the demand is fair. Prices obtained we consider full market value. We quote average grades from 58 to 65c per gallon; fancy grades 70 to 75c. No new crop from near-by on the market as yet, nor California. We have several cars now in transit due here the first of September. We quote California sage at 9c, orange 8 to 8½c, light amber 7 1-2 to 8c. Beeswax arrivals are quite heavy, and the market shows a downward tendency, so prices are likely to go still lower. We quote 28 to 30c.

HILDRETH & SEGELKEN.

TOLEDO, Aug. 25.—The market on comb honey remains the same as last quotations, but prices have weakened some. Strictly fancy white comb honey is bringing, in a retail way, from 15 to 16c per pound; No. 1 from 14 to 15c, with no demand for dark grades. On account of the large crop this year bee-keepers seem to be hurrying their product to the market, and small dealers selling regardless of value, which has a tendency to keep the market down. Extracted white clover honey in barrels is bringing from 7 to 7¼c, some sales being made at 8c; amber extracted from 6 to 6¾c. Beeswax is bringing from 28 to 32c, according to quality. The demand for honey is not as brisk as usual, owing to the dull times and the heavy rush of fruit to the market, especially peaches which are an unusually large crop this year.

THE GRIGGS BROS. & NICHOLS CO.

SAN FRANCISCO, Aug. 26.—Light amber extracted honey, 5 1-2 to 5¾c; white extracted, 6 to 6¼c; water white, 6¾ to 7c. Beeswax, 25 to 28c, according to quality.

GUGGENHIME & CO.

MILLER'S

Superior Italian Queens

By return mail after June 1st, or money refunded. Bred from the best red clover working strains in the United States. There are no better hustlers. They are gentle and winter well. Untested queen, $1.00; six for $5.00; twelve, $9.00. After July 1, one queen 75 cts.; six for $4.00; twelve for $7.50. Special prices on 100-lots; and discounts on time orders. Safe arrival and satisfaction guaranteed. Write for descriptive circular. 6A4t

ISAAC F. MILLER, Reynoldsville, Penn.
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HONEY

We have on hand a fine lot of **New Extracted White Clover Honey** which is excellent, and which we offer at the following prices:

Barrels (about 550 lbs. each) - -	8c per pound.
Ten 60-pound cans or more, - -	8½c "
Two 60-pound cans or more, - -	9c "
One 60-pound can, - - - - - -	10c "
Six 10-pound cans or more, - - -	$1.15 each.
Twelve 5-pound cans or more, - - -	60c "

After September 20th we can furnish **Amber Fall Honey** at the same prices as above. **Sample Free.**

DADANT & SONS, Hamilton, Illinois

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CAPONS bring the largest profits —100 per cent more than other poultry. Caponizing is easy and soon learned. Progressive poultrymen use

PILLING CAPONIZING SETS

Postpaid $2.50 per set with free instructions. The convenient, durable, ready-for-use kind. Best material. We also make *Poultry Marker 25c, Gape Worm Extractor 25c French Killing Knife 50c. Capon Book Free.*

G. P. Pilling & Son, Arch St., Philadelphia, Pa.

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This Is The Best Month To Do

REQUEENING

and we have as fine a strain of **Golden Italians** as can be had. Prices for this month, for Untested, 75c; for Select Untested, $1.00; **Lewis' Goods at factory price.** Catalog free. Postal Card will bring it to you.

The C. M. Scott Co., 1005 E. Washington St., Indianapolis, Ind.

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DOOLITTLE & CLARK

Are sending out choice Italian Queens at the following prices: Untested—1, $1; 3, $2.50; 12, $9. Tested—1, $2; 3, $5; 12, $18. Breeders—$2.50, $5, and $10.

Borodino, Onondaga Co., New York.

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ITALIAN BEES FOR SALE

300 full colonies in first-class hives, each $3.75; 3 for $11.00. Closing out. No disease. Must sell this fall. Dove'd hives, each $1.00; supers 25c. Also 4-fr. automatic extractor and other supplies. Finest extracted clover and basswood honey, 10c per lb. 9Atf

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Italian Queens

Mott's Long Tongues have won a wide reputation. Thanks to my many customers and for kind words. Circular free. Postal Orders payable on Decatur, Mich. 9Alt

E. E. MOTT, Glenwood, Michigan

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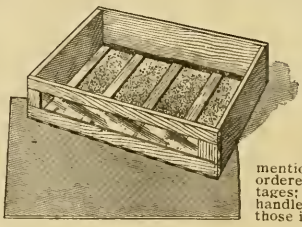

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For any number or size of Sections desired. These cases are made of fine white basswood and the workmanship is first class. Owing to the shortage of the honey crop last year, we have a good stock on hand and can make immediate shipment.

Twelve-inch case with follower to hold 24, or 8-inch case with follower to hold 12 bee-way sections, shipped when no size is mentioned. All cases single-tier unless otherwise ordered. The double-tier case has many advantages; lighter, stronger, shows more sections, is handled and stored easier. Further particulars to those interested.

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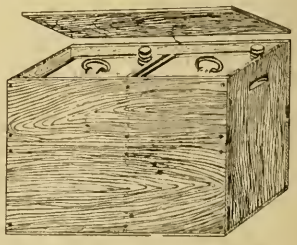

Standard packages for storing and shipping extracted honey. Less chance for leakage or taint from wood; being square they economize on space. Five-gallon cans boxed two or one in a box, gallon cans 10, and half-gallon cans 12 to the box. Five, one and half-gallon cans not boxed if desired. Prices on application for any quantity.

Place your order for the number of Cases and Honey Packages wanted, and we will guarantee prices and prompt shipment.

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48th Year
No. 10

October, 1908

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10c. a Copy

AMERICAN BEE JOURNAL

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APIARIES OF M. H. MENDLESON, OF VENTURA COUNTY, CAL.—(See page 295.)
(One of the Largest Bee-Keepers in the Golden State.)

American Bee Journal

THE AMERICAN BEE JOURNAL

PUBLISHED MONTHLY BY

GEORGE W. YORK & COMPANY

118 W. Jackson Blvd., Chicago, Ill.

IMPORTANT NOTICE.

THE SUBSCRIPTION PRICE of this Journal is 75 cents a year, in the United States of America, (except Chicago, where it is $1.00), and Mexico; in Canada 85 cents; and in all other countries in the Postal Union, 25 cents a year extra for postage. Sample copy free.

THE WRAPPER-LABEL DATE indicates the end of the month to which your subscription is paid. For instance, "dec08" on your label shows that it is paid to the end of December, 1908.

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Objects of the Association.

1st.—To promote the interests of its members.

2d.—To protect and defend its members in their lawful rights.

3d.—To enforce laws against the adulteration of honey.

Annual Membership Dues, $1.00.

General Manager and Treasurer—
N. E. FRANCE, Platteville, Wis.

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This is a pamphlet, 6x9 inches, containing 10 songs (words and music) written specially for bee-keepers, by Hon. Eugene Secor, Dr. C. C. Miller, and others. They are arranged for either organ or piano. The list includes the following: "Bee-Keepers' Reunion Song;" "The Bee-Keeper's Lullaby;" "The Hum of the Bees in the Apple-Bloom;" "The Humming of the Bees;" "Buckwheat Cakes and Honey;" "Dot Happy Bee-Man;" "Bee-Keepers' Convention Song;" "The Busy, Buzzing Bees;" "Spring-Time Joys;" and "Convention Song." The pamphlet is mailed for 25 cents, or sent with the American Bee Journal one year—both for only 90 cents. Send all orders to the American Bee Journal, 118 W. Jackson, Chicago, Ill.

Western Bee-Keepers We Will Show You how to save money. Send for our new catalog of the best Bee-ware made.

THE COLORADO HONEY-PRODUCERS' ASS'N, Denver, Colo

Bee-Keepers' National Convention,

Detroit, October 13-15

Transportation Arrangements via **Michigan Central** "Niagara Falls Route"

Six trains daily Chicago to Detroit as follows:

GOING

Lv. Chicago	*7:10 a.m.	8:15 a.m.	10:30 a.m.	3:00 p.m.	5:00 p.m.	10:00 p.m.	11:55 p.m
Ar. Detroit	5:20 p.m.	3:30 p.m.	5:55 p.m.	10:30 p.m.	11:53 p.m.	7:15 a.m.	9:20 a.m

RETURNING

Lv. Detroit	7:00 a.m.	*7:10 a.m.	8:25 a.m.	1:40 p.m.	9:15 p.m.	1:20 a.m.
Ar. Chicago	2:55 p.m.	6:05 p.m.	3:30 p.m.	9:10 p.m.	7:30 a.m.	8:45 a.m.

Also numerous trains from the east via N. Y. Central and Michigan Central as follows:

Lv. New Y'k	12:50 p.m.	4:30 p.m.	6:00 p.m. or 8:00 p.m.		11:20 p.m.	8:45 a.m
Lv. Boston	10:00 a.m.	1:45 p.m.	4:45 p.m.		7:35 p.m.	
Lv. Albany	4:15 p.m.	8:00 p.m.	10:00 p.m. or 10:45 p.m.	or 11:40 p.m.	3:15 a.m.	12:10 noon
Lv. Buffalo	11:50 p.m.	3:25 a.m.	7:45 a.m.		2:00 p.m.	8:25 p.m
Lv. N. Falls				8:25 a.m.	2:12 p.m.	9:05 p.m.
Ar. Detroit	6:20 a.m.	8:15 a.m.		1:30 p.m.	8:50 p.m.	1:10 a.m.

* Except Sunday

Fare Chicago to Detroit $5.50. Sleeping-car reservations, and fares from other points will be cheerfully furnished upon application to L. D. Heusner, General Western Passenger Agent, 236 Clark Street, Chicago.

O. W. RUGGLES.
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Standard Hives with latest improvements, Danzenbaker Hives, Honey-Boxes, Comb Foundation and everything that is used in the bee-yard. Large illustrated catalog mailed free. Finest White Clover Extracted Honey for sale in any quantity desired.

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except tinware and honey-packages. Send for catalog.

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Is the Best. Not because we say so, but because the Bees prefer it to other makes.

Dittmer's Process is Dittmer's

It has built its Reputation and established its Merits, on its own Foundation and its own Name.

We make a Specialty of Working Wax into Foundation for Cash.

Write for free catalog and prices on full Line of Supplies.

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Italian and Caucasian BEES, QUEENS and NUCLEI

Choice home-bred and imported stock. All queens reared in full colonies.

Prices for July and After

One Untested Queen	$ .75
One Tested Queen	.90
One Select Tested Queen	1.10
One Breeder Queen	1.65
One Comb Nucleus (no queen)	.80
One Tested Caucasian Queen	1.10

Safe arrival guaranteed. For prices on larger quantities and description of each grade of queens, send for price list.

All queens by return mail. A few hundred pounds of Comb Foundation. Send for sample and price.

J. L. Strong, 4tf 200 East Logan St. Clarinda, Iowa

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Not Cheap Queens, But Queens Cheap.

Bred from the very best selected strain. Guaranteed to work any flower.

Italian Bees Work or Money Refunded

Untested Italian queens in lots as follows:
One, 75 cents; Six, $4.20; Twelve, $7.80.
Tested Italian queens in lots as follows:
One, $1.00; Six, $5.70; Twelve, $10.80.
Nuclei with untested Italian queen:
One fr., $1.75; Two fr., $2.25; Full Col. $4.75.
Nuclei with tested Italian queen:
One fr., $2.00; Two fr., $2.50; Full Col. $5.00.

The above queens are all reared from the very best selected red clover Italian queens. Orders filled by return mail. **Dealer in Bee-Keepers' Supplies.**

6Alt **W. J. Littlefield,** R. F. D. No. 3 Little Rock, Ark.

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QUEENS

of the Robey strain of three-banded Italians during the season of 1908. Warranted queens, 75c each; $4.25 per six; $8.00 per doz. Tested queens, $1. Satisfaction or money refunded.

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Booking Queen-Orders for 1909

$1.00 for 6 queens; $2.10 for 3; or 75c for

A Standard-Bred Italian Queen-Bee

For a number of years we have been sending out to bee-keepers exceptionally fine Untested Italian Queens, purely mated, and all right in every respect. Here is what a few of those who received our Queens have to say about them:

What They Say of Our Queens

GEORGE W. YORK & CO.: The two queens received of you some time ago are fine. They are good breeders, and the workers are showing up fine. I introduced them among black bees, and the bees are nearly yellow now, and are doing good work. A. W. SWAN.
Nemaha, Co., Kan., July 15, 1905.

✣✣✣

GEORGE W. YORK & CO.:—After inputting queens for 15 years you have sent me the best. She keeps 8½ Langstroth frames fully occupied to date, and, although I kept the hive well contracted, to force them to swarm, they have never built a queen-cell, and will put up 100 pounds of honey if the flow lasts this week. CHAS. MITCHELL.
Ontario, Canada, July 22, 1905.

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GEORGE W. YORK & CO.:—The queen I bought of you has proven a good one, and has given me some of my best colonies. N. P. OGLESBY.
Washington Co., Va., July 22, 1905.

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GEORGE W. YORK & CO.:—The queen I received of you a few days ago came through O.K., and I want to say that she is a beauty. I immediately introduced her into a colony which had been queenless for 20 days. She was accepted by them, and has gone to work nicely. I am highly pleased with her and your promptness in filling my order. My father, who is an old bee-keeper, pronounced her very fine. You will hear from me again when I am in need of something in the bee-line. E. E. MCCOLM.
Marion Co., Ill., July 13.

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Address, GEORGE W. YORK & CO., 118 W. Jackson, Chicago, Ill,

FENCE *Strongest Made*

Made of **High Carbon Double Strength** Coiled Wire. **Heavily Galvanized** to prevent rust. Have **no agents.** Sell at **factory prices on 30 days' free trial.** We pay **all freight.** 37 heights of farm and poultry fence. **Catalog Free.**

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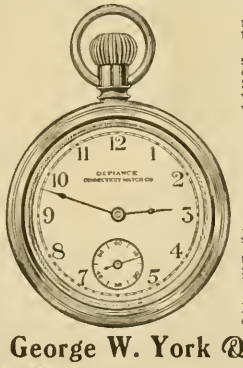
FIVE ACRES **ONLY $1,000.00** Choice Chicago Suburban property at Winfield, Du Page Co., Ill., 27 miles west, C. & N. W. Ry.; low commutation rates; 50 minute's ride. Tracts **One Acre** and up. Fine garden, fruit and timber land. River frontage. **All near depot.** Just the place for chickens, squabs, mushrooms, bees, gardens and homes. Send for folder.

VANDERCOOK & SKIDMORE, 108 LA SALLE ST., CHICAGO

A Good Watch Free as a Premium



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3. Repairs will be made, not necessitated by carelessness or abuse, during one year from date watch is bought, if it is returned to them with 5 cents enclosed for return postage.

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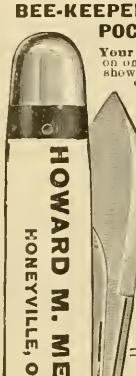


Your name and address put on one side of the handle as shown in cut, and on the other side pictures of a queen-bee, a worker, and a drone. The handle is celluloid and transparent, through which is seen your name. If you lose this knife it can be returned to you, or serves to identify you if you happen to be injured fatally, or are unconscious. Cut is exact size. Be sure to write exact name and address. Knife delivered in two weeks. Price of knife alone, postpaid, $1.25. With year's subscription, $1.75. **Free** for 4 new 75c subscriptions.

BEE-KEEPERS' GOLD-NIB FOUNTAIN PEN

A really good pen. As far as true usefulness goes is equal to any pen of the higher-priced, much-advertised pens. If you pay more it's **name** you're charged for. The Gold Nib is guaranteed 14 Karat gold, Iridium pointed. The holder is hard rubber, handsomely finished. The cover fits snugly, and can't slip off because it slightly wedges over the barrel at either end. This pen is not leakable. It is very easily cleaned, the pen-point and feeder being quickly removed. The simple feeder gives a uniform supply of ink to the pen-point without dropping, blotting or spotting. Every bee-keeper ought to carry one in his vest-pocket. Comes in box with directions and filler. Each pen guaranteed. Here shown two-thirds actual size.

Price alone, postpaid, $1.25. With a year's subscription, $1.75. **Given free** for 4 new subscriptions at 75 cents each.

MONETTE QUEEN-CLIPPING DEVICE

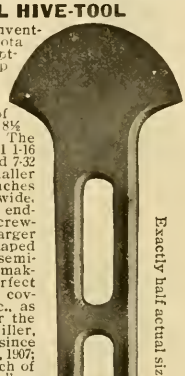
The Monette Queen-Clipping Device is a fine thing for use in catching and clipping Queens' wings. Four and one-half inches high. It is used by many bee-keepers. Full printed directions sent with each one.

Price alone, postpaid, 25 cents. With a year's subscription, 90 cents. **Given free** for sending one new subscription at 75 cents.

Size.

IDEAL HIVE-TOOL

A special tool invented by a Minnesota bee-keeper, adapted for prying up supers and for general work around the apiary. Made of malleable iron, 8¼ inches long. The middle part is 1 1-16 inches wide and 7-32 thick. The smaller end is 1⅞ inches long, ¼ inch wide, and 7-32 thick, ending like a screw-driver. The larger end is wedge-shaped having a sharp, semi-circular edge, making it almost perfect for prying up covers, supers, etc., as it does not mar the wood. Dr. Miller, who has used it since 1903 says, Jan. 7, 1907; "I think as much of the tool as ever."



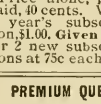
Exactly half actual size.

Price alone, postpaid, 40 cents. With a year's subscription, $1.00. **Given free** for 2 new subscriptions at 75c each.

PREMIUM QUEENS

These are untested, standard-bred Italian Queens, reports of which have been highly satisfactory. They are active breeders, and produce good workers.

Sent only after May 1st. Orders booked any time for queens. Safe delivery guaranteed. Price, 75 cents each, 6 for $4.00, or 12 for $7.50. One queen with a year's subscription, $1.20.



Queen **free** for 3 new 75c subscriptions.

HUMOROUS BEE POST-CARDS

O WON'T YOU BEE MY HONEY,
AND CHEER THIS LONELY HEART?
FOR I WOULD HUG YOU ALL THE TIME,
AND WE WOULD NEVER PART
I CANNOT BEAR TO LOSE YOU

A "Teddy Bear" on good terms with everybody, including the bees swarming out of the old-fashioned "skep." Size 3¼x5½, printed in four colors. Blank space 1½x3 inches for writing. Prices 3 postpaid, 10 cents; 10 for 25 cents. Ten with a year's subscription, 90 cents. Six **given free for one new** 75c subscription.

BOOKS FOR BEE-KEEPERS

Forty Years Among the Bees, by Dr. C. C. Miller.—334 pages, bound in handsome cloth, with gold letters and design, illustrated with 112 beautiful half-tone pictures, taken by Dr. Miller. It is a good, new story of successful bee-keeping by one of the masters, and shows in minutest detail just how Dr. Miller does things with bees. Price alone, $1.00. With a year's subscription, $1.50. **Given free** for 3 new subscriptions at 75 cents each.

Advanced Bee-Culture, by W. Z. Hutchinson.—The author is a practical and helpful writer. 230 pages; bound in cloth, beautifully illustrated. Price alone, $1.20. With a year's subscription, $1.70. **Given free** for 4 new subscriptions at 75 cents each.

A B C & X Y Z of Bee Culture, by A. I. & E. R. Root.—Over 500 pages describing everything pertaining to the care of honey-bees. 400 engravings. Bound in cloth, price alone, $1.50. With a year's subscription, $2.00. **Given free** for 6 new subscriptions at 75 cents each.

Scientific Queen-Rearing, as Practically Applied, by G. M. Doolittle.—How the very best queens are reared. Bound in cloth and illustrated. Price alone, $1.00. With a year's subscription, $1.50. **Given free** for 4 new subscriptions at 75 cents each. In leatherette binding, price alone, 75 cents. With a year's subscription, $1.25. **Given free** for 2 new subscriptions at 75 cents each.

Bee-Keeper's Guide, or Manual of the Apiary, by Prof. A. J. Cook.—This book is instructive, helpful, interesting, thoroughly practical and scientific. It also contains anatomy and physiology of bees. 544 pages, 295 illustrations. Bound in cloth. Price alone, $1.20. With a year's subscription, $1.70. **Given free** for 4 new subscriptions at 75 cents each.

Langstroth on the Honey-Bee, revised by Dadant.—This classic has been entirely rewritten. Fully illustrated. No apiarian library is complete without this standard work by "The Father of American Bee-Culture." 520 pages, bound in cloth. Price alone, $1.20. With a year's subscription, $1.70. **Given free** for 4 new subscriptions at 75 cents each.

"The Honey-Money Stories."—A 64-page booklet containing many short, bright stories interspersed with facts and interesting items about honey. The manufactured comb-honey misrepresentations are refuted in two items, each occupying a full page. Has 33 fine illustrations of apiaries or apiarian scenes. It also contains 3 bee-songs. This booklet should be placed in the hands of everybody not familiar with the food value of honey, for its main object is to interest people in honey as a daily table article. Price 25 cents. With a year's subscription, 90 cents. **Given free** for one new subscription at 75c.

Three copies for 50 cents; or the 3 with a year's subscription, $1.00; or the 3 copies **given free** for 2 new subscriptions at 75 cents each.

Amerikanische Bienenzucht, by Hans Buschbauer, is a bee-keepers' handbook of 138 pages, which is just what our German friends will want. It is fully illustrated and nearly bound in cloth. Price alone, $1.00. With a year's subscription, $1.50. **Given free** for 3 new subscriptions at 75 cents each.

THE EMERSON BINDER

A stiff board outside like a book-cover with cloth back. Will hold easily 3 volumes (36 numbers) of the American Bee Journal. Makes reference easy, preserves copies from loss, dust and mutilation. Price postpaid, 75 cents. With a year's subscription, $1.25. **Given free** for 3 new subscriptions at 75 cents each.

WOOD BINDER

Holds 3 volumes. Has wood back but no covers. Price, postpaid, 20 cents. With a year's subscription 80 cents. **Given free** for one new subscription at 75 cents.

BEE-HIVE CLOCK

A few of these handsome "bronze-metal" clocks left. Base 10½ inches wide by 9¾ inches high. Design is a straw skep with clock face in middle. Keeps excellent time, durable and reliable. Weight, boxed, 4 pounds. You pay express charges. Price $1.50. With a year's subscription, $2.00. **Given free** for 6 new subscriptions at 75 cents each.

Entered as second-class matter July 30, 1907, at the Post-Office at Chicago, Ill., under Act of March 3, 1879.)

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GEORGE W. YORK, Editor | CHICAGO, ILL., OCTOBER, 1908 | Vol. XLVIII—No. 10

Editorial Notes and Comments

National Convention at Detroit

It will be in session soon after most of the readers receive this copy of the American Bee Journal. At this writing (Sept. 22) it promises to be largely attended.

Don't forget that it meets in the Sun Palace of the Wayne Hotel, in Detroit, Mich., the opening session being Thursday evening, Oct. 13th. The convention then continues during the next two days. All being well, we expect to be present, and hope to meet and greet many old friends, and new ones as well.

Secretary Hutchinson has put forth unusual effort to have a good program, so it will not be his fault if it is not a successful meeting.

Let all go who possibly can do so, and help to make the Detroit convention of the National the greatest in every way of any bee-keepers' convention ever held on this continent.

The Honey Market Unusual

Movements in the honey market this year seem to be unusual and somewhat erratic. In the white clover belt, at least in many parts of it, an unusual crop has been harvested. In some other localities the crop is meager or a failure. Colorado will have little more than needed for its own consumption. Think of best comb honey standing firmly at 17 cents at San Francisco, while at least one Eastern market quotes 12½ cents!

Some dealers say that prices must come down to allow any movement of the crop, but the wise bee-keeper will not too readily fall into a panic and "give away" his honey. Prices of other articles in general are not so much lower than last year; indeed, some are higher. Yet one must take things as one finds them, and in most places there probably must be a drop from last year's prices.

Langstroth Hive the Standard

The Kansas State Bee-Keepers' Association at its last session, held at Hutchinson, Kans., adopted the Langstroth hive as the standard hive for all beginners to start with in bee-keeping. We understand that this was not done with a view to discourage experimenting with other hives, but because of the Langstroth hive being more generally and more successfully used than any other. It certainly is a great mistake for a beginner to commence with a hive that is not approved by experienced bee-keepers. There have been so many so-called moth-proof hives invented and put on the market, and also other styles having so many contraptions, that it seems it might be wise for bee-keepers' associations to name one hive that they all know can be used successfully. Those who so desire can try the other kinds that are offered for sale.

It might not be a bad idea for the National Association to consider this matter at the Detroit meeting, and thus perhaps aid those who when starting in the bee-business desire to make no mistake in the hive they adopt.

Shipping Bees by Express

We have received the following in reference to shipping bees by express:

EDITOR AMERICAN BEE JOURNAL:—After vainly attempting to secure redress I think it proper to communicate to you the action of the U. S. Express Company regarding a shipment of a hive of bees delivered to that Company at Plainfield, N. J., for transmission to Rye, N. Y.

I personally packed the bees in what I understood to be the usual approved and safe manner for transportation. The consignee being naturally unable to open the same immediately upon receipt, and the hive being without exterior damage, signed the usual formal receipt blank. Upon examination it proved that the hive had been so roughly handled that I was obliged to purchase a new queen, although the usual excess express rate was charged.

I made careful statement of all of the facts, asked the company to assure themselves that my standing was such as to show that I would not make an unfounded claim, and requested reimbursement either of the express charge, or of the cost of the new queen, as the Company might think just.

This action was taken by me practically at the request of one of the largest bee-supply and bee dealers in this country, who stated that the express companies' negligence in handling such shipments, although charging one and one-half or double rates, had become unbearable.

The Company refused to do anything in the premises, stating that the package had been delivered without showing injury, and receipted for, taking advantage, I suppose, of the knowledge that the loss was so small that it would not justify a suit.

I ask you to give this communication such prominence as you may think it deserves in view of its possible interest to the bee fraternity. Yours very truly,

HENRY CROFUT WHITE.

New York, N. Y., Sept. 14.

Mr. White's experience is not unlike that of others who ship bees by express. Of course, it is an outrage. But just what can be done to put a stop to such exasperating experiences, we do not know. Why not submit the matter to the National convention in Detroit next month? Perhaps something looking toward a possible solution can be found there.

On the Michigan Central to Detroit.

It has now been decided that those who will attend the Detroit convention from the Southwest, West, and Northwest, in going from Chicago to Detroit will use the Michigan Central Railroad. As the opening session convenes on Tuesday evening, October 13, it is expected that most of those leaving from Chicago will take the 10:30 a. m. train which arrives in Detroit at 5:55 p. m., or about 2 hours before the meeting begins. Arrangements have been made to attach a special car for the exclusive accommodation of the bee-keepers, provided there are enough to occupy it. No doubt most of those passing through Chicago will arrive here on Tuesday morning, so that the Michigan Central train leaving at 10:30 a. m. on Tuesday, Oct. 13, will be the one on which

the largest number can go together.

The fare from Chicago to Detroit will be $5.50, and the same returning. The Monday night train leaves Chicago at 10 o'clock, arriving at Detroit at 7:15 the next morning. If going on this train sleeping-car berth-rate is $2.00. Those wishing such accommodations should communicate early with Mr. L. D. Heusner, General Western Passenger Agent of the Michigan Central Railroad Co., 236 Clark St., Chicago, Ill., being sure to state the number in the party so that he can make the necessary reservations.

Those who wish to go on other trains than those mentioned above can do so as per schedule shown in the Michigan Central advertisement on another page of this issue.

For the information of those coming from the East a condensed time table is also shown in the same advertisement via the New York Central Lines in connection with the Michigan Central.

Detroit is always an attractive city in which to hold a convention, and especially so at this season of the year. Those going from the West will have ample opportunity for side-trips by water routes as well as by rail, including Niagara Falls. Those coming from the East can make attractive side-trips to Western cities, including Chicago.

On page 263 of the September number it was stated that a ticket costing $19.50 could be bought "reading Chicago to Niagara Falls; Gorge Route to Lewiston; Niagara Navigation Co.'s boat to Toronto, returning Canadian Pacific to Detroit, and Wabash direct; this ticket good for 30 days from date of sale." We have since learned that such tickets will *not be on sale after September* 30, so that it was a mistake to have announced it, for which notice the agent of the Wabash Railroad Company is responsible, he having supplied the information to us.

We now hope that all bee-keepers who can do so, will, in purchasing their transportation, see that it reads from Chicago over the Michigan Central, and, if possible, leave Chicago on the 10:30 a. m. train Tuesday, October 13. The Michigan Central is the well-known "Niagara Falls Route." It is splendid in equipment, and first-class in every way. We wish there might be a full carload to leave on the 10:30 a. m. Tuesday train referred to. If it should be so, the Detroit National convention would really begin in Chicago, and consist of a "continuous performance" for 8 or 10 hours before President Hilton calls the convention proper to order.

Floating Apiary on the Mississippi.

Floating apiaries on the river Nile in Egypt are things that have been read about for a long, long time, and some years ago quite a little was contained in the bee-papers about the floating apiary of C. O Perrine on the Mississippi. It looks quite reasonable to believe that if one should have a lot of colonies afloat in some vessel, he might start near the mouth of the Mississippi with the opening of flowers, long before bees farther north could find anything to do, gradually moving northward with the advance of the season, thus extending the season many weeks beyond what it would be in any one fixed locality.

It was never very clear that the Perrine venture was a great success beyond its value as an advertisement, but any one who desires to read a very full account of 5 or 6 pages from one who has had an extended experience with a floating apiary, in connection with a floating photographer's studio, will do well to get the September number of the Bee-Keepers' Review. In a very candid manner, D. Stad Menhall gives his experience, an experience that he seems to look upon with a degree of pleasure, for he says:

"We certainly enjoy this life, and have good health. There is no house rent to pay, with plenty of free wood and water, and our back yard is always clean."

He estimates an outlay of $4,000 for outfit, and the same amount for yearly expense, but seems a little doubtful whether there is big money in the undertaking. At any rate he frankly says his boats are for sale.

He thinks an apiary following the bloom up the Mississippi river could be made a success *if* there were a strip of basswood or white clover 3 miles wide on each side of the river. He says further:

"It is true that the bloom does open gradually, going northward as the season advances, but it is just as true that there are not enough of nectar secreting plants to make a commercial success of a floating apiary. Excepting a few weeds, white clover is the only nectar-secreting plant that grows between New Orleans and St. Paul, and the acreage within reach of a floating apiary is not large enough to furnish a surplus for 300 colonies—only large enough for brood-rearing."

Feeding Bees for Winter

If bees do not gather enough stores for winter use, they must be fed. If fed late, the syrup must be thick, as the bees have not time to thicken it. Feeding early, using half sugar and half water, has been favored, as it allows time for the bees to make the desired chemical changes in the feed, but there seems some tendency toward later feeding nowadays, using half as much water as sugar.

Always there will be some beginner asking, "What shall I feed?" Nothing but the best granulated sugar. In the spring, after bees get to flying, you may feed about anything you can get the bees to take. But for winter stores it is dangerous to feed anything less than granulated sugar. Of course, that does not bar out good honey, but when a man asks, "What shall I feed?" it is safe to conclude he has no honey.

The wise bee-keeper has provided in advance a store of brood-combs solid with honey, to give to any needy colony, either for winter or in the spring.

Grading Colonies of Bees

About this time of year, perhaps a little earlier, comes one of the most interesting times to the wide-awake bee-keeper. The hurry of getting the crop out of the way is over, and he sits down leisurely to take stock of what each colony has done, comparing the yields of different colonies with each other and with the average. Not that he wants to gloat over his success in getting a good crop; he is past that. He wants to know what each colony has done so that he may lay his plans for the next season.

Of course he has kept tally throughout the season, and knows just how much honey he has harvested from each colony in his possession. Then there are other things to be considered besides the amount of honey harvested by each colony, and taking all things into consideration he must decide which he counts his best colony to breed from in the coming year. Then the second best, the third best, and so on, regularly grading down. There is, of course, the possibility of winter loss, in case of which he will take the highest of those left for next year's breeding.

Of course this selection might be made next spring; but it can be done just as well now, and your true bee-keeper will hardly put off such an important and interesting item longer than he must.

Swarm Leaving Colony Queenless

There has been some question whether it ever happened that a swarm would issue with a virgin queen, leaving the colony hopelessly queenless. While it is probably not a common occurrence, it does sometimes happen, if there is no mistake in reports made by two correspondents in Gleanings in Bee Culture. Yet some of the cases reported look like desertion rather than regular swarming.

Fuller's Plan of Queen-Rearing

Mr. O. F. Fuller, a bee-keeper of 25 years' experience, has been experimenting in the matter of queen-rearing, and by certain modifications in frames and hives, which in good time he proposes to give free to the bee-keeping public, he succeeds in producing queens more easily than by any plan heretofore known. Doolittle cell-cups are used in the same story with a laying queen. Arthur C. Miller endorses the plan as an advance, as also does Prof. W. T Brooks, of the Massachusetts College of Agriculture.

As giving some inkling of what he is doing, Mr. Fuller writes:

"August 10 I produced and had on exhibition 34 queen-cells of different ages, from 2 to 10 days old, all started in this same lower hive which contains 10 frames and also a laying queen—all in the same lower brood-chamber of a hive. I fully think that by another year I can produce anywhere from 15 to 20 or even 25 queens every 10 days, all started and hatched in the same brood-chamber that had a laying queen, and produce comb honey at the same time."

New Kink in Introducing Queens

Dr. Miller has been making a variation in introducing this year that he has named "the lazy plan." Instead of putting the caged queen between the combs or on top of the frames, he merely thrusts the cage into the entrance among the bees. This is an easy matter with his entrances 2 inches deep. The queen is left strictly imprisoned for 2 days. Then the bees are allowed to get at the candy, taking about 2 days to release the queen. That makes some 5 days from the time the queen is caged until she is free on the combs.

American Bee Journal

and seems quite a safe plan, especially as there is probably some advantage in having the queen at the entrance rather than near the top of the frames.

It may be well, however, to caution beginners that the plan might not work so well when no honey is coming in and nights are cool. In a cool night the cluster of bees would be likely to shrink away from the queen, leaving her out in the cold. But under right conditions there is certainly an advantage in having the cage where it can readily be got at any time without the trouble of lifting off supers and opening the hive.

Take Sections Off Hives in Fall

The probability is that quite a number of beginners who read this page still have sections on the hive. So long as bees are busy storing the right kind of honey, it is all right to leave them on, no matter how late in the season, but when storing has ceased sections should be taken off at once.

The beginner is likely to say to himself something like this: "I'm not entirely sure that the bees may not still have some use for sections, and at any rate it can do no harm to leave them on until time to pack bees for winter." That is a great mistake. At this time of the year, especially when no storing is going on, bees delight in spreading propolis indiscriminately, and the foundation in sections will be discolored thereby, in some cases to such an extent that the bees will utterly refuse to accept it the following year.

If you still have any sections on the hives, get them off at once.

Program for Detroit National Convention

The National Bee-Keepers' Association will hold its annual convention, October 13, 14 and 15, in the Sun Palace of the Wayne Hotel, at the foot of Third St., Detroit, Mich. Headquarters will be at the Wayne Hotel, where the rates to bee-keepers are $2.50 per day, when two persons occupy the same room. There are plenty of other hotels in the vicinity where the rates vary from $1.25 to $2.25 per day.

The Michigan State Bee-Keepers will hold a session at the same place on the afternoon of the 13th, beginning at 2:00 p. m. The first regular session of the National will be on the evening of the 13th.

OCTOBER 13—FIRST DAY—EVENING SESSION.

"Demonstration of Handling Live Bees in a Cage," by E. R. Root, of Medina, Ohio.

"Bee-Keeping of Hawaii," by Prof. E. F. Phillips, of the Apicultural Bureau of Washington, D. C. This lecture will be illustrated by stereopticon views secured by Prof. Phillips during his recent trip to Hawaii.

"Moving Picture Exhibition," by E. R. Root, of Medina, Ohio. (To run this film through the lantern requires about 10 minutes, and it gives a fair idea of some of the "stunts" they do in England when handling bees—some of them are decidedly mirth-provoking.)

OCTOBER 14—SECOND DAY—MORNING SESSION.

8 a. m.

"President's Address," by Geo. E. Hilton.

"The Bacteria of Bee-Diseases," by Dr. G. F. White, of the Apicultural Bureau at Washington, D. C.

"How to Detect and Know Bee-Diseases," by W. D. Wright, of Altamont, N. Y., one of the New York Inspectors of Apiaries.

RECESS OF 15 MINUTES.

"Getting rid of Foul Brood with the Least Financial Loss," by R. L. Taylor, of Lapeer, Mich., Inspector of Apiaries for Michigan.

General Discussion on Diseases of Bees.

Question-Box.

OCTOBER 14—SECOND DAY—AFTERNOON SESSION.

2 p. m.

Debate on the following: "Resolved that an Eight-frame Langstroth Hive is Preferable to a Larger Hive in Extracted Honey Production;" affirmative taken by S. D. Chapman, of Mancelona, Mich., and the negative by R. F. Holtermann, of Brantford, Ont.; each contestant allowed to speak twice, using not more than 15 minutes each time.

General Discussion on the subject.

Question-Box.

RECESS OF 15 MINUTES.

"Turning Winter Losses into Profit," by W. J. Manley, of Sandusky, Mich.

Question-Box.

Adjournment and Members Photographed in a Group.

OCTOBER 14—SECOND DAY—EVENING SESSION.

7 p. m.

This session is to be in a lighter vein—as the story is to more solid reading. It is to be in imitation of the toasts that usually follow a banquet—that is, responses to sentiments. The speakers are to remain unknown until announced by the toastmaster, but the list of topics is as follows:

"Securing Legislation for Bee-Keepers."

"Rough Spots in the Pathway of an Inspector of Apiaries."

"Late Apicultural Inventions."

"The Possibilities of Future Bee-Keeping."

"The Cost of Honey-Production."

"Bee-Keepers as Temperance Reformers."

"The Friendship of our Fraternity."

OCTOBER 15—THIRD DAY—MORNING SESSION.

"Locating Apiaries," by E. D. Townsend, of Remus, Mich.

Discussion.

Question-Box.

RECESS OF 15 MINUTES.

Question-Box.

OCTOBER 15—THIRD DAY—AFTERNOON SESSION.

2 p. m.

"How to Secure Good Prices for Honey even in Years of Bountiful Yields," by O. L. Hershiser, of Kenmore, N. Y.

Discussion.

RECESS OF 15 MINUTES.

Question-Box.

Adjournment to see honey extracted with an 8-frame Automatic Extractor, with Gasoline Engine as Power.

The foregoing is simply an outline, a sort of skeleton which will be filled out with good things.

W. Z. HUTCHINSON. *Sec.*

Premiums Offered at the Detroit National

Through the generosity of the leading manufacturers and dealers the following liberal premiums are offered for the display of bees, honey and wax at the coming National Convention:

Best and largest display of single-comb nuclei of different varieties of bees, accompanied by queens, condition of bees, purity of race, and beauty of hives to be the competing points—1st premium, 2,000 No. 1 sections, by the G. B. Lewis Co., Watertown, Wis.; 2nd premium, $3.00 Italian breeding queen from the Medina apiary of the A. I. Root Co.; 3rd premium, two years' subscription to the Canadian Bee Journal, by the Hurley Printing Co., of Brantford, Ont.

Best 10 section of comb honey, completeness of filling of section, evenness of surface of comb, completeness of capping, freedom from travel-stain, and general neatness and appearance to be the competing points—1st premium, 1,000 No. 1 sections from the G. B. Lewis Co.; 2nd premium, cloth-bound copy of the "A B C and X Y Z of Bee Culture," by the A. I. Root Co.; 3rd premium, one year's subscription to the Canadian Bee Journal, by the Hurley Printing Co., and one year's subscription to the American Bee Journal, by Geo. W. York & Co.

Best 10 pounds of liquid extracted honey, quality and manner of putting up for market to be considered—1st premium, 1,000 No. 1 sections by the G. B. Lewis Co.; 2nd premium, Jumbo, copper smoker, by the A. I. Root Co.; 3rd premium, Root Standard tin smoker, by W. D. Soper, of Jackson, Mich.; and one year's subscription to the American Bee Journal.

Best 10 pounds of granulated honey, quality, including fineness and smoothness of grain, and manner of putting up for market to be considered—1st premium, 1,000 No. 1 sections by the G. B. Lewis Co.; 2nd premium, Standard tin smoker by the A. I. Root Co.; 3rd premium, one year's suoscription to the American Bee Journal.

Best 10 pounds of beeswax, color, texture, and beauty of the cake or cakes in regard to shape, to be considered—1st premium, one $5.00 Italian breeding queen from the Medina apiary of the A. I. Root Co.; 2nd premium, one year's subscription to the American Bee Journal by Geo. W. York & Co.; 3rd premium, one Root Hive Tool by the A. I. Root Co.

The most important late apicultural invention that has not been awarded a premium—1st premium, $5.00 worth of bee-supplies, "Root Quality," by M. H. Hunt & Son, of Lansing, Mich.; 2nd premium, one full leather-bound copy of the "A B C and X Y Z of Bee Culture," by the A. I. Root Co.; 3rd premium, one copy of "Advanced Bee Culture," by W. Z. Hutchinson, Flint, Mich.; and one year's subscription to the American Bee Journal, by Geo. W. York & Co.

For the best single section of comb honey, A. G. Woodman & Co. offer one Woodman Protection Hive; for the second best single section, they offer 1,000 No. 1 Lewis Sections; for the third best, one Advanced Bee-Veil.

For the best single section of honey stored in a Marshfield section-box, W. D. Soper offers 500 No. 1 Marshfield sections.

For the best 10 pounds of comb honey produced with Dittmer foundation, Mr. Soper offers 3 pounds of Dittmer's extra-thin foundation.

The judge to pass upon the above exhibits will be appointed by the President.

W. Z. HUTCHINSON. *Sec.*

California Apiaries of M. H. Mendleson

The photo used in the July American Bee Journal is from my home apiary at Piru. This apiary contains 500 colonies, and is run for comb and extracted honey. In the spring of each good year, I start with 200 to 300 colonies, and increase runs to 500 or 600 or more colonies. On the last of June of each year I move away about 150 to 250 or more colonies to the bean-fields for them to fill up in good shape for winter quarters. I used to get considerable surplus from the beans, but of late years

American Bee Journal

EXTRACTING ARRANGEMENTS OF M. H. MENDLESON, OF VENTURA, CAL.

it has been too cool and dry for good results for surplus there. One season I had 900 colonies in this apiary during the winter, and in the spring they were distributed to out-apiaries.

The end view (see first page) with buildings at the end, is from the same apiary, showing the warehouse and large shed to work under in the shade, and for storage purposes. You will notice 4 telephone wires at the house. They lead to out-apiaries, and 2 wires lead to the main line of the Home Telephone Company's lines. The extracting house is hidden by the trees.

The photo of extracting rig shown herewith is from the same apiary. In the near future I expect to have this extracting house larger, more convenient and up to date. That is, I have some inventions of my own to install to make it the most complete of any in Southern California. This is not meant for a boast, but from general observations here the rig will prove for itself.

The picture with extracting house in the center (see first page) is my Ramona Apiary. This is not completed. It also contains 500 colonies, mostly moved to the bean-fields this season to save them from starvation this bad year.

I have a power Root extractor to run by an electric motor to be put in this apiary, as the main line Power Company's lines run within a few hundred feet of the apiary, but they have not run out their sub-station lines as yet.

I have other nice apiaries, but I have no good pictures of them. I have located nearly all of my apiaries in the bottom of canyons, so the bees could reach their hives with the least labor possible when loaded with honey. They can soar *down* to their hives. Consequently results are better.

M. H. MENDLESON.

Piru, Calif., Aug. 18.

Honey Season in Colorado

A letter received September 21, from R. C. Aikin, of Loveland, Colo., has this to say about bee-keeping in Colorado this year:

"My honey crop—well, I have none—a total failure. I have been hit hard the last few years. Denver and Northern Colorado have not enough honey this year for home demand."

It is very unfortunate for Colorado bee-keepers that the honey-crop is so short there this year. But what is one locality's loss may be another's gain, for the Eastern markets in some years have been pretty well loaded up with Colorado honey. Of course it is always very fine honey and generally in good demand. This year, however, it will not enter into competition.

By the way, Mr. Aikin is a candidate for governor of Colorado.

Starting New Bee-Papers

Editor Hutchinson has had experience. And from that experience he draws the following sane conclusion, in which we, after an experience of nearly 25 years, in publishing a bee-paper, most heartily concur:

"Many bee-journals have been born, breathed a few times, and died, during the last 25 years. If my memory serves me correctly, there were once 8 bee-journals living published at the same time in this country; just at present there are only three; and I believe this is the smallest number there has been at one time in the last quarter of a century. Many of the journals that fell by the wayside did not deserve to live. They possessed little merit. Others were quite fair journals; but the cold, hard fact remains that the field for bee-journalism is limited.

"Notwithstanding this terrible object lesson—terrible to those who put in their big dollars and bright hopes—it is likely that others will follow in their footsteps. To make a success of starting a new bee-journal now would require barrels of money, unusual ability, and years of hard work, all of which turned into straight honey-production would bring ten times the profit. To the man about to embark in such an enterprise my advice is, 'Don't'."

We suppose the foregoing was called out through the discontinuance of the late American Bee-Keeper, which of itself, could not possibly be a profitable venture at 50 cents a year.

Pleased with American Bee Journal.

In a letter from Mr. Edwin Bevins, of Leon, Iowa, dated September 21, he has these words of appreciation for this Journal:

I am pleased with the appearance of the American Bee Journal. I am also pleased with the prosperous and substantial look it is taking on. May you have, as you deserve, great success with it, and may its circulation meet and exceed that of its greatest rival.

EDWIN BEVINS.

Mr. Harry C. Mosher, of Dowagiac, Mich., writes thus kindly:

The Journal is very, very fine. Keep up the good work. "Dr. Miller's Question-Box" is alone worth the price of the magazine. I am renewing at the new price (75 cents) as the Journal is worth it.

HARRY C. MOSHER.

These are only samples of the cordial expressions we are receiving from some of those who know the real value of a bee-paper that is gotten up on the lines followed by the American Bee Journal We appreciate such encouraging words

Handling Bees at a Fair

Mr. Robert A. Holekamp, of St. Louis, Mo., made a display of honey at the St. Louis County Fair, and on three consecutive days exhibited bees in a cage. He was in the cage about 1½

E. E. KENNICOTT AND OTHER BRAVE BEE-HUNTERS.
(Glenview, Ill. This tree yielded over 4 gallons of clover honey.)

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hours each time, and "surpirsed the natives" by the way he handled the bees. He says "it is easy enough when you know how," which, of course, is quite right.

Mr. Holekamp is a thorough going bee-keeper, and is also one of the directors of the National Bee-Keepers' Association. He expects to attend the Detroit convention with Mrs. Holekamp.

Some National Convention Folks

The following persons have indicated that they expect to attend the coming National Convention at Detroit:

Aspinwall, L. V. and wife.
Abbott, E. T.
Ahlers, H. C. and wife.
Barb, J. S.
Provald, A. C.
Carr, E. G.
Coveyou, Elias E.
Cavanagh, F. B. and wife
Chrysler, W. A.
Chapman, S. D.
Cameron, R.
Carter, Wm.
Cutting, H. D.
Dickenson, E. and wife
Darby, M. E.
France, N. E., wife, daughter and son.
Fowls, Chalon and wife.
Forbes, W. E.
Furnass, W. C.
Frazuer, W. S.
Gute, Martin.
Holekamp, R. A., and wife.
Hutchinson, W. Z., and wife.
Hutchinson, Elmer and wife.
Hilton, Geo. E. and wife.
Hoffman, Jacob and wife.
Holtermann, R. F.
Harmer, Walter.
Hunt, E. M.
Hurley, Jas. J.
Hand, J. E.
Hershiser, O. L.
Huber, L. B.
Lewis, J. L. and wife.
Muth, Fred W. and wife.
McKnight, W. L.
Miller, F. J. and wife.
McDonald, Fred B. and wife.
Myers, Wm.
Myers, Thos.
Manley, Wm. J.
Manley, Herbert J.
Mandeville, M.
Pressler, E. E.
Pettit, S. T.
Phillips, E. F.
Rice, M. M. and wife.
Root, A. I.
Root, E. R.
Root, H. R.
Sims, Jno. S.
Smith, C. F. and wife.
Smith, F. H. and wife.
Soper, W. D.
Strittmatter, F. J.
Tyrrell, E. B.
Taylor, R. L. and wife.
Townsend, E. D. and wife.
Tyrold, John
Thompson, Decker
Werner, Louis
Wilcox, Franklin
White, W. G.
Williamson, Geo. T. and wife.
Wood, A. D. D.
Wright, W. D.
York, Geo. W.

Let no one think that the foregoing are all the persons who will be present, as not one person in a dozen will take the trouble to write the Secretary and say that he is going; besides, many don't make up their minds to go until the very last moment. Notice the number of ladies that are to be present. There will be more ladies at this convention that have ever before graced a convention with their presence. Come, and bring *your* wife—if you have one.

W. Z. HUTCHINSON, *Sec.*,
Nat'l. Bee-Keepers' Association.

Conducted by EMMA M. WILSON, Marengo, Ill.

Uniting Colonies for Wintering.

DEAR MISS WILSON:—I had such good success last spring by following your advice in regard to swarming, that I again come to you for advice.

I had 5 fine swarms, 4 of which I treated according to directions on page 70, with complete success. The fifth colony had such crooked combs that I could not get a frame of brood out without tearing up the brood-nest, so I hived them in the ordinary way.

But this season has been a complete failure as regards honey-gathering. During white clover bloom it continued cold and rainy, and the bees barely made a living. We had a fine bloom of sumac, but it seemed to yield very little nectar. I do not expect any surplus and shall have to feed, but it is not the fault of the bees, for they are scurrying after every flower they can see. I do not think this can be a very good honey locality. When we had 3 or 4 colonies we could take about 80 pounds of surplus. Last year with 13 colonies we got a little over 300 pounds. I should like to double them up as advised by Dr. Miller and A. I. Root, page 1308 of Gleanings, making 6 or 7 colonies from the 13. If I place one hive above another with wire netting between for a few days till they acquire the same scent, then remove the netting, should I place an excluder between the hives to keep the queens apart, or remove one queen, or let them fight it out themselves? In the pile of hives you sometimes have, you allow but one queen, and I should think that would be the case in uniting 2 or more colonies. Would the united colonies require as much feed for wintering as if each were on separate stands?

(Mrs.) FRANCES THOMPSON.

Manes, Mo., Sept 4.

If you have any choice of queens you can remove the inferior one; if not, it will be all right to let them fight it ought. But unless the colony in the upper story is very weak, you must give them some chance for flight while above the wire-cloth. You can do this by pushing the cover back, leaving just room for the bees to get out.

Decidedly the united colony will not require as much feed as the two separate, and be safe to winter, too.

She Got It Kerwhack.

A dear old lady from Saranac,
Said as she stroked a bee's back,
"You dear little thing,
I am sure you won't sting."
Just then she got it kerwhack!

—OHIO

"Among the Saccharine Hives."

A much-esteemed sister has sent a newspaper clipping, "The honey-flow; Among the Saccharine Hives in July." It was published in the Manchester Guardian, and the Boston Transcript thought well enough of the article to copy it. Too bad that its length prevents its presentation in full in this department; but a few random excerpts are given, partly to show how poetic one may be on the subject of bees, and partly to show how one may draw upon one's imagination for part of one's facts:

"It is a wonderful sight, this honey flow—one long crowded hour of glorious life. The bees no longer come out as single spies or in random clusters, but in whole battalions. By noon, when the neighborhood of the hives is filled with a delicious pungent odor of honey, they pour out of the entrance in a black, murmuring stream, leaving just a neat, narrow way for those returning laden from the fields.

"All day long there is a joyous hum which rises and falls with the sun. In the early morning it is fresh and faint, being scarcely audible. But as the day advances it flutters up from octave to octave, rising at times to a pitch of ecstasy. Then as the afternoon wanes there is a crescendo, followed by a lull, which sinks at evening into a low monotone of droning content.

"The baby bees, just out of their cells, are also pressed into the service. They must make their maiden trip in search of honey, for no one can be spared.

"For the bee-keeper this is a glad but anxious time. All his sections are ready and scented with mint and lavender to lure the bees up into them."

Arabella Love Amos.

Mrs. Arabella Love Amos was the oldest of five children born during the 60's, of Scottish parentage, to John and Barbara Love, in Wisconsin. Mr. Love had travelled widely in oriental countries and spent much of his time lecturing on two continents. Mrs. Love died when Mrs. Amos was about 9 years of age, and Mr. Love returned to Scotland, where the children were educated. Upon the death of Mr. Love, some 10 years later, Mrs. Amos, being the oldest of the family, thought it best to return to this country, where she migrated to Custer Co., Neb., and took land and proceeded to establish a home for the rest of the family. The next few years were spent largely in teaching school, for which she was particularly fitted, and at which she was very successful. In 1891 she was married to Mr. Z. D. Amos, an exemplary young man of more than ordinary financial ability, and together they acquired several hundred acres of land.

Mr. and Mrs. Amos, besides having 3 daughters of their own, have made, at different times, a home for several

MRS. A. L. AMOS.

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motherless children, one of whom was adopted in earliest infancy, and who will sadly miss her best friend.

Of late years Mrs. Amos had given much attention to the subject of apiculture, to the many perplexing problems of which she brought a mind of more than ordinary perceptions. Both as a writer and lecturer on bee-topics she had made a more than State-wide reputation.

She died July 26, 1908, at her home in Custer Co., Neb., from a complication of diseases, and was followed to her last resting place by the largest concourse of people ever seen on a like occasion in that vicinity.

Spacing Brood-Frames—Running for Extracted Honey—Equalizing Brood.

DEAR MISS WILSON:—How far should brood-frames be spaced from center to center? Those I am now using are closed-end, 1⅜ inches wide. I am going to change to another frame, and one manufacturer sends a sample that is about one millimeter less than 1⅜ inches wide. I am going to run for extracted honey, and use the same size frame in both super and brood-chamber.

Is it advisable to transfer brood from one colony to another to equalize them? If so, in what stage should the brood be?

If in running for extracted a super becomes full of sealed comb, you are not ready to extract, and don't wish to put on another super, what would you do with the combs? This year I stored some in weaker colonies, and instead of taking care of it, they used it for rearing brood.

This is my second year with bees and I don't want to make a mistake in starting again.

The information coming from Marengo, I consider none better, and I thank you and Dr. Miller for a great deal found in the journals the 2 years I have read them, and shall appreciate your and his say on above questions as a personal favor. C. C. GETTYS.

Hollis, N. C., Aug. 25.

The spacing of frames generally used is 1⅜ inches, from center to center, although some prefer 1½ inches.

A great deal of good, and a great deal of harm, may be done by giving brood to equalize colonies. Undoubtedly it is a good thing if care is taken to give no more brood than the bees can care for. The riper the brood the easier it will be for the bees to care for, and the sooner they will build up. Much harm would come from giving brood that would not be covered, only to be chilled. It would also be harmful to weaken too much the colony from which you draw. Better never leave it less than 4 frames of brood.

You stored your full combs of honey over weaker colonies, and you say "instead of taking care of it, they used it rearing brood." You seem to think this a mistake. Not a bit of it. They needed it or they would not have used it, and you could not have used that honey in any better way. It is a big mistake to stint your colonies as to stores. If, however, for any reason you don't want that honey used for rearing brood, you can take out as many frames as you wish, and store in the house, keeping on the lookout that worms do not trouble them. But there is no place so good to keep honey as in the care of the bees; and if you do not wish to give another whole super you can store in an upper super a single comb, or as many combs as you wish, replacing them with empty ones in the lower super.

Thank you for your kind words and good wishes. Please let us hear from you again.

An "Amateur" Sister's Report.

Seven colonies, spring count, 2 colonies absconded (the villains!), 1474 pounds of honey—both comb and extracted. How is that for an amateur? (Mrs.) J. J. GLESSNER.

Littleton, N. H.

An average of 210 pounds per colony! That's enough to make even a veteran green with envy.

Father Vs. Bees.

You talk about the sprinting match
Across the dark blue seas;
But you ought to see my father sprint
When mother hives the bees!

—OHIO.

A Human Hive Lifter for the Sisters.

The picture shown herewith was sent by Mr. J. L. Anderson, with the inscription:

"The 'Old Reliable' hive-lifter; self-adjusting, easily controlled, such as every lady bee-keeper should have. (See American Bee Journal, pp. 11 and 73.)"

A SISTER'S HUMAN HIVE-LIFTER—"ANDERSON PATENT."

There is certainly recommendation in that short description.

"Self-adjusting;" no need to waste time making changes to adapt it to a dovetailed hive, a Heddon, or a Jumbo.

"Easily controlled;" well—that is, generally speaking. It has the advantage that it is adapted to other uses than lifting hives—lifting carpets, for instance. This kind of hive-lifter comes high, but the best is often the cheapest. It is however, very durable; the one in the picture has been in use many years and is almost as good as new. Any one desiring to secure this particular machine, can open negotiations with the lawful owner, Mrs. Anderson.

[We are surprised that Miss Wilson failed to give directions for securing one of these perambulating hive-lifters, seeing the particular one shown in the illustration is not on the market. No doubt there are others "on the market" that are "just as good," and would give equal satisfaction, although "the lawful owner" of the Anderson style might not think so, as she could speak of many years' experience with hers. However, it may be *Mrs.* A. could give more successful directions for securing a hive lifter of her kind than could *Miss* W.—Editor.]

Moth-Worms—Cross Bees.

I noticed one colony of my bees that were in an old box-hive were not storing any surplus. It was a last year's swarm, and in June I put on a surplus super and noticed a good show of brood and honey. I investigated—that is, pried off the super and found that the wax-worms were at work. I took out a half-bushel of comb and web, and left the rest. The next day robbing commenced and by night they had little honey left in the brood-frames. I thought to transfer them, but it grew late and I could not smoke them out into the new hive. The next morning I was called away from home, returning about one o'clock. As I got out of the buggy the air was full of bees, and I looked in the hive and they were gone, and no wonder. No honey, no brood but hundreds of big, fat wax-worms, which I find the chicks relish very much.

I melted up what comb was fit, and got about a pound of wax. It is likely that if I had been looking my bees over I would have discovered the wax-worms some weeks ago, but I do not like the box-hive and do not interfere with the bees unless necessary. I should have transferred this colony to a new hive, but as I am only a amateur, I put it off until too late.

My best producing colony of bees this year were very ugly, bunting their heads against the screen doors of the house, trying to get at me many days after I robbed them of their honey. I would much rather have ugly bees and full supers, than empty supers and tame bees. OHIO.

You appear to think that bees ought to be in movable-frame hives, and in that you are right. But to have transferred would not have saved the bees from wax-worms after they had proceeded so far. Almost certainly the colony was queenless and the bees old at the time of the windup, and if you had transferred them you would not have had anything of value.

The moral is to have movable-frame hives, and queen-right colonies, for a strong colony with a good queen will keep the moth at bay. Even a weak colony is pretty safe against worms, if the bees are Italians.

I am not fond of cross bees; but I quite agree with you in preferring those that fill their supers, even if their tempers are not the best.

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Conducted by LOUIS H. SCHOLL, New Braunfels, Tex.

Those Congratulations—"Queenlessness."

Many thanks for the kind congratulations, Miss Wilson, (page 266); but it seems to me you left out the "other fellow." Indeed, the stunt would have been "pretty good—for a man." However, it should have been, "for a man *and a woman*," for what Mrs. Scholl did was good—for a woman. And she'll receive her share of the congratulations for it even if others fail to do so.

But all joking aside, there are times when some of the accomplished tasks are pretty good—for a woman. What would we do without the woman, especially in the rush of the busy season? Then it is that the "queen" of the household counts, and it is this reason that makes many of us more successful. Somebody will laugh at me, just because I love the fairer sex of mankind. Among them a lot of bachelors, perhaps, and since I've had a little experience with such, a bachelor's home always seems to me like a queenless hive of bees. No, I am not off the subject of bee-keeping. It may help somebody more than we think.

Faults of Bee-Papers, Large Honey Crops, Etc.

Now since we have but 3 bee-papers published in the United States, let us keep them up to their present high standard of excellence. I, for one, am proud of our bee-literature. If you have not noticed the wonderful improvements in our bee-papers, just compare one of today's with one of 25 years ago.

But one of the faults I have to find with the present bee-papers is that they take up too much space in telling how to do things on too large a scale, such as visiting out-yards in automobiles; how to run 1,000 colonies of bees with but two or three visits a year; how to ship a carload of section honey without the loss of a single section, etc. But, then, I like them all, anyway.

Strong Colonies and "Worms."

I have thought for many years that the so-called "moth-worms" did little or no harm to a strong colony of bees, but I have recently had cause to change my mind. I found a strong colony of mostly black bees in a large hollow elm tree, that had their combs almost riddled with these worms, and I have reasons to believe they would have destroyed the colony notwithstanding they were very well supplied with honey, and apparently had a good queen.

That 40,000-Pound Crop.

The report of Mr. Louis Scholl's 40,000-pound crop of honey makes some of us feel as if we were doing rather a "pin-hook" business at bee-keeping. But perhaps if some of us had as many colonies of bees as Mr. School, we would not fall so far behind him, after all.

Difficulty of Introducing After Flow.

It is a fact that queens are much harder to introduce in late fall after breeding begins to slack up than in the height of the breeding season. Just why this should be so I am unable to tell. Perhaps they feel their season's work is about at an end, and that their time will be short, anyway, and that they can live the rest of their days without a mother.

Bees Return from Swarm with Old Queen.

C. W. Dayton, of California, called attention some time since to the fact that when bees swarmed with an old, failing queen, the swarms were usually small, and, if large, most of the bees would return to the mother-hive, either before or after being hived. This fact I thought was so generally known among practical bee-keepers that I had never seen fit to call attention to it. Yes, sir, I have witnessed this fact many times. I had a case of that kind the present year. A large swarm issued at noon. I caged the queen and put her with the clustering bees, and came in to dinner. On my return I found at least half the bees had returned to the old hive. This, as stated, I had seen many times before, but never with a vigorous, young laying queen.

Apiarist Must Supersede the Queens.

Will bees always supersede a queen when she begins failing from old age? I have heard this answered "yes," many times, but from long and practical experience in watching this, my answer is "no." I think nearly, or quite, one-third of the bees hold on to their old queens until they are worthless so far as surplus honey is concerned. I had 2 old queens left in one of my out-yards last spring after I got through requeening, that showed signs of failing. So I decided to leave them to see what the result would be. Now for the result: Those bees have those old queens yet, and not a pound of surplus honey from either colony, while those I requeened have stored 100 pounds and upwards, to the colony. Can you blame me for not leaving the superseding of my queens to the care of the bees?

Rescue, Tex. L. B. Smith.

Tut, tut, Mr. Smith, just what I like about the bee-papers you are fussing about. It is just these things that have helped me to do things. Automobiles are going to be too slow soon—air-ships will enable us to go straight across.

Is it not true that black bees are more susceptible to "worms," and that we should Italianize? This accounts for the "worms" in that elm-tree colony.

With the aid of the bee-papers, we expect to do still greater things in the future—just you watch!

Bee-Keepers' Exhibit at Fairs.

Several years ago I had a large crop of honey, and all the merchants being stocked up, I was unable to sell it. So I arranged an attractive exhibit in a show window on a prominent street in my town. First, I had an observatory hive and placed some of our best looking bees on fat combs of honey, sealed white, to attract the people; and it did. Then we had large, white clear-glass bottles in which to exhibit our honey, both comb and extracted; and beeswax moulded in cakes, with honey in 1½ and 3 pound jars, all beautifully arranged, and stating the prices of the honey. It was only a few days before my entire crop was disposed of, and a permanent sale established. I occupied the most popular show window in this town.

If I had a large apiary like some bee-keepers, and produced large crops of honey as some do, I would be like the monkey-man, the balloon, and the taffy-candy men, and would follow up all the fairs and exhibit and sell all my honey. Take some nice observatory hives full of bees, and large flint-glass jars, like those in my exhibit, and have printed cards giving your address. You will be surprised at the results you will get out of this method; and, best of all, it is a great educator for the people. Be with your exhibit, if possible, and politely answer all questions, and lecture to the people on bee-culture. If practical, manipulate your bees before the public. Also exhibit your beeswax.

Waco, Tex. C. S. Phillips.

The Louis H. Scholl apiaries have been doing their part in this line of work, and are again this year "doing the fairs" with an exhibit of not only bees, honey, and beeswax, but some of the things made out of honey and wax. Fruits preserved in honey and over a dozen kinds of cakes, etc., are among them. Honey leaflets and cards are used in connection. It is fun to do such missionary work.

"TO dare is often the impulse of selfish ambition or hair-brained valor: to forbear is at times the proof of real greatness."

Washington Irving.

American Bee Journal

A Visit to Luther Burbank

Honey-Bees and the Red Clover.

SANTA BARBARA, Calif., Sept. 19, 1908.

For a number of years bee-keepers have tried to produce a race of bees which could secure the honey of the red clover at all times when this plant is in bloom, but thus far success is only partial. When we think that we have secured Italian bees which proved good red-clover workers, a season comes when none of them are any better able than the common black bee to harvest anything from the long corolla of this plant.

Does this mean that we will never succeed in producing long-tongued bees? No; but we are too sanguine. We expect to secure in half a dozen generations an improvement that will very probably follow years and years of constant selection.

There is another way to reach the goal of honey-production from red clover. It is the securing of a plant which will have shorter corolla than the ordinary red clover, while yet retaining all the other characteristics of this plant—its red blossom, its heavy stem, and powerful strength—qualities that are missing in both the white and the alsike clovers. Allow me to digress a moment in order to tell you how I came to discuss this subject with one of the best authorities in the world on plant domestication and variation.

I am just now, in company with my wife, taking a protracted vacation as you have noticed by the heading of this letter, dated from Santa Barbara. Our children are all grown and able to look after our interests, so we decided to make a long trip to the Pacific Coast. We left home on August 1, going north by way of Winnipeg, and westward on the Canadian Pacific through the Rockies and the Selkirks, and in the past two months we have not seen a bee-paper, either American or European, and have almost forgotten that there are bee-keepers in the land, although every now and then the little honey-bee, quietly working on the flowers, reminds us of the home and our long life pursuit.

While in the neighborhood of San Fransisco, we had the pleasure of a visit to the famous Luther Burbank, the "Wizard of the West." It happened in this wise:

My wife belongs to a floral society in our town, and she had often read of Burbank's wonderful achievements. She desired to see him, but we felt that it was out of the question to call on him unless we could be sure of a welcome. I took the liberty to write him a letter, and received a very cordial reply in a very short time, inviting us to call on him at the time of our passage, and stating that he was once a bee-keeper himself, in New England, some 38 years ago.

Well, to make a long story short, we called at Santa Rosa, his home, were very nicely received by Mr. Burbank himself, and were shown by him through his experimental grounds. It would be out of place to recite here all that we saw, for this is a bee-paper and not a horticultural publication. But I can not refrain from saying that Burbank's greatest hobby is the cactus. We saw giant thornless cacti, loaded with pears of large size, and also absolutely thornless. Mr. Burbank, to show how absolutely smooth his plants were, would rub the leaves against his face. Pointing to his home, a very fine mansion, he said, "That house was built out of the proceeds of the sale of 5 leaves of the Giant Thornless Cactus, sold by me to the Australian Government for $1,000 each."

Among other wonders, such as the thornless blackberry, the corn without ears, grown with the intention of supplying a giant fodder and hay plant, we saw a patch of sweet clover upon which Mr. Burbank is experimenting in view of eliminating the bitter flavor of the plant, which is said to be the cause of the dislike of cattle for this forage in many sections of the country. Mr. Burbank expects to succeed, in the course of time, in eliminating this bitter taste, and making the sweet clover a first-class forage plant.

Well, we had a little talk with him about the honey-bee, and I incidentally mentioned the efforts made to produce a long-tongue bee, and enquired as to the possibility of obtaining a red clover with short corolla. Of course, this is exactly in the line of Mr. Burbank's work, and he at once described the proper steps to take to secure this improvement, which he said would probably take years of patient work with un-ending perseverance. But as this work may be carried on by many agricultural workers at the same time, there is no reason why success would not be finally achieved.

Here is a synopsis of his suggestion: The best method to ascertain the existence of short-corolla clover, is to take notice of it at a time when the bees work upon it. We all know that there are seasons, usually during the second crop, when the corolla is shorter, and the bees sip nectar from it. Closely watch the bees and mark and select the heads upon which the bees are positively seen, not merely to alight, but actually to sip nectar. Such heads as are most successfully worked upon by the bees should be secured for seed. Season after season, this selected clover should be watched during bloom. Whenever blossoms are found upon which bees succeed in harvesting nectar *during the first bloom*, the problem will be practically solved, and all that will be necessary then will be to continue the selection from year to year until a clover is produced that is readily visited by bees. Not only will this give a great addition to the honey-yield, but it will also secure a seed-yielding crop during the first season as well as during the second crop, for it is a well-acknowledged fact that the first crop of red clover yields no seed because there are no insects that can work upon it and fertilize it.

I am just now reaching the honey producing section of California, and although we promised ourselves to make our vacation entirely devoid of business cares, yet it is possible that I may meet enough bee-subjects before I return home to give something more on these questions to our friends of the American Bee Journal.

C. P. DADANT.

Honey as an Anti-Dyspeptic Agent

BY MRS. F. P. WHITE.

For more than a year I had dinned into my unbelieving ears this sentence: "Use honey instead of sugar and you will not have sour stomach." Not because I believed my friend's prescription would help me, but merely to please her, I tried it for two weeks. I did not like it at first, but after a few days became rather fond of it and since it relieved me of many ills to which my too abundant flesh had been heir, I would have eaten it had I really disliked it. For two years I had seldom eaten a meal without suffering from indigestion and its attenaing evils. I could use as much honey for sweetening as I cared to with impunity. The flatulence, eructation and distension entirely disappeared and my old friend took full advantage of the situation by her frequent "I told you so."

I am a trained nurse, and in October, 1906, received into my home a man seventy-nine years of age, and, according to medical opinion, not likely to get much older. He was a paralytic, and was carried up stairs by four men. He ate heartily, and with no exercise, indigestion followed as night into the day. I tried giving him two meals instead of three for *one* day. I emphasize one, for at 11 p. m. of that day I arose and prepared his belated supper lest he disturb the neighbors. I next reduced the meals in quantity, and his lamentations were not to be endured. He ate sugar in and on everything possible, so I began substituting honey, and found that it worked like a charm. Wishing to be sure, I returned to the sugar, then back to the honey four times in two week periods until I am convinced past all doubting that for him and me honey is a ministering angel.

My patient is an old friend of Mr N. E. France, who visits him often;

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when I made known to him my wonderful discovery he smiled and said: "That discovery was old when Confucius was a boy." Mr. Brown is still living, and very comfortable, although two years have passed, and I attribute his fine condition partly to the use of honey.—National Bee Keepers' Association.

A Little Talk on Bee-Hives

BY REV. C. T. OHLINGER.

On the photographs I submit with this article a good variety of hives can be seen. There is the regulation dovetailed hive in front of the honey-house, single-walled with 8 Hoffman frames. This I call my experiment station.

On another view an old-fashioned Langstroth-Simplicity with the inevitable portico is conspicuous. The large white hives with inscriptions for distinguishing marks are chaff-hives holding 10 Hoffman frames. This style is "our own make." There being no patent on them as yet, any one is free to duplicate them. The body rests on an inclined bottom, and the cover is deep enough to take in 3 supers.

Now look at the view where you see the covers trying to fall off. Don't think for a minute that a cyclone had passed over the bee-yard. Atmospheric conditions were very agreeable in this neighborhood. No, the trouble came from putting standard supers on odd-sized hives. Tar-paper and feed-sacks and oil-cloth had to be used to keep out the rain and the robber-bees. Of course, one's esthetic sense is shocked when looking at such a variegated arrangement. But what of it? Let me whisper into your ear that I took twice as many sections from some of those antediluvian makeshifts as from the elegant chaff-hives. One colony has not swarmed in 3 years, doing good work every season. Why should I condemn them when I get what I want from them?

I am not opposed to new ideas. Now would it matter if I were? But while I am not against innovations that go to make bee-keeping more enjoyable and easier, I never go into hysterics over them. I have read about the many so-called short-cuts, about the great speed with which some of the professionals go through their hives; about the lightning rapidity with which they can put a cover from one hive to another; about the great number of colonies they can feed in a minute; about the marvelous celerity exhibited when pursuing the art of scraping sections; about the mystifying legerdemain when clipping queens—that I felt as if some one stood in the bee yard with a stop watch in hand, calling, "Ready—Go!"

According to American doctrine time is money. Good thing; many of our bee-keepers have a vast supply of this species. We are fast making a god of speed in all our sports, professions, and —bee-keeping. As it is, when some of the fast-timers reach the goal they have only breath enough in their lungs to give one cheer, and then drop.

The long "hives" on one of the views are made to take in 6 regulation hive-bodies of 10-frame size. These can be removed and shifted about whenever necessary. There is ample room for packing around the colonies, and they exceed anything I have tried in wintering.

Besides these regular hive-bodies which I call the "visible," I experimented with the so-called "divisible." As yet I have not found enough advantage in them to adopt them generally. Now, I believe every well-regulated apiary ought to have at least one or two "invisible" brood-chambers, commonly called box-hives. I keep a few of them just for the fun of it. It is marvelous what the bees can do when left to their own devices. They beat some of those over-manipulated hives all to pieces. The bee-keeper is all in the dark as to what is going on in the brood-nest; well, so are the bees, and that is the way they like it best. I don't think they want the search-light of inspection turned upon them every 2 or 3 days. This smacks a little of heresy. However, I am talking only about my bees, and not about my neighbors.

The difference between an old, weather-beaten chaff-hive of 20 summers, and a brand new factory hive, was demonstrated to me during swarming time. In order to be up-to-date I keep a few clipped queens, of course. One day one of them swarmed. Everything went off according to the regular program. The queen was found and caged, the old hive was removed, and set on another stand, a new hive was put in its place, the queen-cage placed on the alighting board close up to the entrance, the swarm very promptly returned, and went into the next hive that resembled the old one, and my poor queen was deserted. The few bees that came over to see her seemed to act as a committee that was sent to coax the old mother over to the colony in the next hive.

A visitor to my apiary asked me whether that curious-looking bee-hive in yonder corner was perhaps the celebrated "dual queen system" hive. I frankly admitted that it was not. It was the proverbial nail-keg that I kept for curiosity's sake. Of course, I enlarged upon the subject of dual queens. It ran thus:

Take a colony of bees. Find and cage the queen. Drive as many bees as possible into a box. Remove it and screen it off on the bottom and on the top. Starve the bees half to death, then feed them until they nearly burst. Shake the box until all the bees are in a state of delirium tremens. Bring them back to their hive, run in the old queen on top and the new one below. Everything being in a state of revolution in the hive the bees disregard all established customs, don't care whether they have one queen or a hundred. After a while, however, the bees will return to their old ways, and everything is run on the single-queen plan as though nothing had happened. The real modus procedendi may be different, but this is the way I understand it.

Angelica, N. Y.

How to Keep Empty Combs

BY LEO E. GATELEY.

No matter whether his operations be extensive, or if only a small number of colonies are being handled, every bee-keeper will occasionally have a number of empty combs on hand which can not be put into use at the time being. Such combs are valuable, and should never be permitted to become destroyed, as they are sure to be needed in the near future, if not before the season is ended

A Few Views of "Bellevue Apiary" of Rev. C. T. Ohlinger

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While it does not pay to use defective combs, neither is it profitable to keep the bees continually at it building new ones, or drawing out comb foundation, which virtually amounts to the same thing. The profits of bee-keeping are not so large that one can neglect these small items and make a financial success of the business. Though not of tremendous importance, in order to put the business upon a paying basis, the bee-keeper can not ignore these small details.

The extracted-honey producer is not the only one to whom empty combs are of value. There is no yard run for extracted honey where idle combs are better cared for than in our comb honey apiary. If they are to be had, a full set is given in place of foundation when hiving swarms. They are, also, superior to foundation in transferring. As long as a comb is straight and even, and comparatively free from drone-cells, it is kept in use for years, and is preferable to that newly constructed.

Probably the greatest difficulty of all in keeping empty combs will be met in the shape of the ordinary wax-moth, especially if there are a few scattered cells containing pollen. Moths are a constant menace to idle combs during the warm months, and should they make their appearance, there is but one thing to be done and that is to fumigate. Bisulphide of carbon will be found preferable to cyanide of potassium, sulphur, or any other of the various things recommended for this purpose. We use it quite often, not only for combs and honey, but for the pea and corn weevil, etc. When only a few combs are to be treated they may be placed in a tight barrel, filling it nearly full if necessary. On top of the combs set a saucer, or some open vessel, into which a small bottle of the liquid is poured and an old piece of blanket or carpet thrown over all. Of course, where a quantity of combs are to be fumigated, the barrel would be too slow, and a tight bin or room that will accommodate all, should be used. As some smell of the stuff may cling to the combs for a few days, it is probably best not to use them immediately after the treatment.

So long as no moths appear, the proper place for idle combs is a lot of empty hive-bodies piled across each other in some light, dry spot. If you would have them become moth-eaten, put them in a close, dark box, and by no possibility could they be more ably arranged to that end. After fumigating, it may be well to put them at once into a *tight* box, but should a crack be left sufficiently large for a moth to enter, we will have hit our finger, instead of the nail, for a dark, quiet place is the favorite rendezvous of this pest.

An excellent place for empty combs is in the care of the bees. Any strong colony can care for quite a number more of combs than is in actual use, and a section of such a hive as we use, filled with empty comb and placed below them, is not going to interfere with their work in the least.

On several occasions, we had combs badly eaten by mice; but this was purely the result of carelessness. As mice do not become troublesome until winter, when there is little danger from moths, one has only to pile the combs up in tight hive-bodies, with a close-fitting cover put at the top to make the whole mouse-proof. Combs may be completely riddled by mice if they are not kept from them; especially if they should contain some honey.

Mold is another thing to be avoided in keeping empty combs. If placed in a damp place or under a leak in the roof, they may become wet and mold. A sure preventive for this is to keep them at all times in a dry place.

The number of good combs I see strewn about the apiaries at neighboring farms to rot and become moth-nurseries, is little less than outrageous. I venture to assert that the value of such combs thrown away as useless, would in this State during the course of a year set some poor bee-keeper upon his feet.

Ft. Smith, Ark.

Preparing Bees for Winter

BY G. M. DOOLITTLE.

Along the middle of last February, I was accosted by a bee-keeper living 6 or 7 miles from me, who wished to know how the bees were wintering. I told him that they were doing as well as usual, and asked how his were wintering. He said he guessed all right, that he had not looked at them since the December before when he "hefted" the hives, and from the "way they hung to the ground," he considered them all right. To the practical bee-keeper such ideas seem quite strange, yet I find that more than half the people who have bees about here, and especially those who have gone into bee-keeping during the past few years, know just about as much about their bees being in good condition for the winter during the fall months as did this man.

I have been told hundreds of times during the past 40 years, and by some who thought themselves quite high up in the bee-keeping world, that according to the "heft" of the hives the bees should winter well, this hefting being done, as a rule, the last of November or first of December. I find that very many seem to think that bees need little or no attention during the months of September and October, believing that the month of November is early enough to prepare bees for winter; and quite a few seem to believe that all the preparation that is needed then is to "heft" the hives. Perhaps I should not be too severe on such, for I used to think that way, too; but after losing heavily several times when preparation was thus delayed, or a guess was made in the matter by simply lifting the hives, I made up my mind that something was wrong, and took the advice of an old bee-keeper, who told me that the month of *September* was the proper time to fix the bees for winter. After working on his plan for a number of years, I found that he was quite right about the matter, and as I am now fixing my bees for the coming winter, I thought it might not be uninteresting to the readers of the American Bee Journal to know how I do.

There is one part of this wintering matter that should not be put off even as late as September, and that is the *knowing* that each colony has a good queen. This part is generally looked after during the latter part of July and the first half of August. All colonies which are found to have queens which are not up to the very best, during the forepart of the season, are marked, and as soon as the harvest from white clover and basswood is over, all such queens are superseded by removing them and giving a ripe cell from my best breeding queen. Then, if, 15 days later, I find this young queen laying, I know that such colony is all right as to queen, and that, as a rule, such a colony will have plenty of young bees for wintering in the best shape.

Having the queen matter attended to, I wait till the buckwheat bloom is mainly over, which, in this locality, is from August 25 to September 5, when I go over the whole apiary and *know* that all colonies have honey enough, or are fed till they do have, the feeding generally being done by setting in combs of honey saved for this purpose, through having a few colonies do all their work during the surplus season in upper stories.

The point which seems to have the greatest bearing on successful wintering is to begin early enough so the bees will be enabled to get their winter stores near and around the cluster of bees in time for them to settle down into that quiescent state so conducive to good wintering, prior to October 20. To arrange these stores and properly seal them requires warm weather, hence all will see the fallacy of putting off caring for them till cold weather arrives.

Heavy combs of honey may be set in any hive during the fore part of September, where the colony is short of stores, setting this comb where it is the most convenient for the bee-keeper, with the assurance that before cold weather sets in, the bees will uncap the proportion of it which is required, and bring it up around the cluster in just the shape they wish it for winter. But, set in such combs during November and December, and they must be gotten close up to the cluster if any of the honey is removed, and, even, then, it is often allowed to remain just as it was put in till some warm spell in winter allows the cluster to expand sufficiently to warm it up and carry it where the bees wish it. I have known colonies to starve to death with such combs of honey almost touching the cluster, through a period of extreme cold, because they had eaten up the little honey they had within the immediate reach of the cluster, and the cold prevented them from moving out sidewise on to these combs of frozen honey.

Probably the easiest way to know to a reasonable certainty that all colonies have sufficient stores for wintering is to prepare a hive with empty combs which are as aged (aged combs are the heaviest) as any we have in the apiary, and weigh this hive filled with combs. To this weight add 3 pounds for the weight of the bees; or if brood-rearing has not ceased add 3 pounds more for brood. Suppose your hive of empty combs weigh 25 pounds, you will call the weight you are to figure for each hive less the honey, as 28 pounds, where there is no brood in the colonies; or 31

pounds if there is brood in the hives. Now, it is generally believed, that no colony wintered on the summer stand, should start the winter on less than 25 pounds of honey, and that 30 would be better; and so we weigh our hives having colonies of bees in them which we intend for wintering, 53 pounds is as little as should be allowed, while 58 would be better; or, 61 if the colonies have brood. As the hives are weighed, the weight of each one is set down on a piece of section, and this tacked to the hive, so that after the weighing is over, I can go through the apiary and know for the looking just what each colony has for winter.

To save a second going over to look at all the pieces of sections, where any colony has sufficient stores, a small stone or a piece of brick is placed in the center of the top of the hive, which tells me at a glance over the hives, all of those which need no further looking after. All that do not have this stone on are looked up, and frames of honey given them till they have sufficient.

Suppose we come to a hive which has the weight of 45 pounds marked on it. We will go to one of the hives having frames of surplus stores, and take out 2 frames, the combined weight of which will probably be 12 pounds, and carry them to this hive. We will now open the hive and take out 2 of the very lightest combs, and put those we brought in their places. These combs taken out may possibly contain one or 3 pounds of honey, but as we have brought 12 pounds instead of the 8 needed, we are all right, as we wish that each colony should have 25 pounds or *more*. In this way we keep on until all have the required amount, when the bees are ready for winter, as far as good queens, number of bees, and honey, are concerned. If we do not have combs of sealed honey, of course, other feeding must be resorted to, but if all are anything like the writer, *once* feeding any liquid poured into a feeder, will suffice for all the rest of their bee-keeping life. The combs of honey are so easily obtained, by a little forethought during the harvest, and are so easily used in preparing colonies for winter, that I cannot think of going back to feeding liquid food under any consideration, short of an entire failure of the honey crop.

Reader, if you have never done this preparing for winter thus early in the season, or have never used full combs of capped honey for winter feeding, give it a careful trial, and, my word for it, you will not be guilty of using any of the slipshod ways again.

Borodino, N. Y.

A Crippled Bee-Keeper and His Apiary

BY JESSE G. COCKRAM.

I began bee-keeping in the old-fashioned way, like many others, not knowing anything about the new method, etc. I kept my bees in this way for about 11 years, getting just a little honey to eat sometimes, and a few pounds of chunk honey to sell now and then when they got rich at robbing time, which, according to the old rule, was about June. But

CRIPPLED JESSE G. COCKRAM IN HIS APIARY.

it very often happens that bees are not rich at this robbing time. Then the old-fashioned bee-man has to wait until next year, or kill his bees in the fall of the year and take all they have laid up for winter, destroying good colonies of bees that would very likely be worth hundreds of dollars in a few years if permitted to live, just for the sake of a few pounds of honey.

Let me say right here—suppose you get $5 or $6 worth of honey and beeswax per colony at "killing time," that is surely all you will ever get from them in all time to come. My bees last year averaged 50 pounds of good surplus section honey per colony. Fifty pounds of honey at 12½ cents per pound is as much as any one generally gets from the very best and richest box-hive when he kills the bees and takes it all. I get this much by working my bees in the new way, and I keep my bees alive to get that much from them next year. Count up then what a colony of bees is worth. Just suppose it to live 10 years in a good frame-hive, averaging 50 pounds of section honey per year, and selling it at 12½ cents per section ($62.50); and this is not all yet. The swarms from this colony for 10 years, and all their increase and honey, too; take this into consideration, and then you will begin to find out that it surely does not pay to kill a good colony of bees at all. No, indeed, it surely does not pay to take that sweet, useful life away. I never expect to kill another colony of bees. I wish I had never killed any.

Get good modern hives and transfer your bees into them, if you have them in box-hives or log-gums. Do as I have done, and save your bees for many years to come, and just watch them go to work for you, bringing in some 25, some 35, some 45, some 50, some 60, and some 75 pounds of honey per colony in one season, and have plenty to winter on besides, but if there happens to come a bad season, so that the bees can not pull through, feed and take care of them until they reach a good season. Be faithful and merciful, and the Lord will bless you.

Yes, I would rather work with bees than at anything else. I just have a love for the bees, and have had from childhood. I have crawled off into the woods many times and hunted for wild bees. I love to transfer bees from old trees into frame-hives, just to see them go to work where they can do well for me and themselves also; where I can remove the honey out of their way, and furnish them more room, just as they need it, and feed and take care of them, if they happen to need any feed.

I haven't walked for 32 years. You see by the picture the way I cross my legs when I am crawling about. But I do not let my legs remain crossed at all times. If I were to uncross my legs and sit on the bench, you could hardly tell in the picture that I was a crippled man. I work at the shoe-trade some through the fall and winter. I can uncross my legs and lay my feet on the back of my neck. I am strong in the other members of my body. I believe the lost strength in my feet and legs has gone to the other members of my body. My legs are small, but I have the right feeling in them, just the same as I have in my arms and hands, and they do not pain or hurt me any. If I let them remain crossed too long they get tired, then I have to uncross them and let them rest. I can climb trees with my legs crossed as you see in the picture.

Woolwine, Va.

Moving an Arizona Apiary

BY W. O. COREY.

The picture I am sending was taken in April. The apiary is located south of the Mule Mountains, about 3 miles from the famous copper camp Bisbee, and about 5 miles from the Mexican

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line. A description of this country and of the moving of my apiary may be of some interest.

January 8, 1908, I bought 120 colonies in double hives, together with extractor and supplies. We hauled them in big wagons six miles to a railroad where we put them in a car, and the road was none of the best, either. To fasten the bees we nailed the bottom and top on the hives, then nailed over the entrance a piece of wire screen. I found that 2 pieces were the best, cutting one strip longer than the other, and nailing it on first, only leaving a small entrance, then a piece a little longer than the opening was easily nailed on. In a short time we nailed all up except this opening the day before we shipped them. Then in the morning, early, we closed them all in.

I shipped them 42 miles by railroad, then hauled them a short distance to where they now stand. They were nailed up 3 days and 2 nights, I liberating them late the third day. I never lost a single swarm, and but a few bees. I consider that was good luck. I would have been satisfied if I had lost 20 colonies, considering the journey. The weather was warm in the daytime. In fact, we have no cold weather here, some even using hives 3/8-inch thick, with no shelter in winter. We seldom have over 2 inches of snow in a winter. This year was an exceptionally dry one. We had cold northwest wind all through April, May and June. In June and July it was very hot. From January until the middle of July we had no rain at all, it being the dryest season in 13 years. Since the middle of July we have had our rainy season, which has brought out the flowers in abundance, and the bees have done well, since we have mesquite, century plant or muscal, cactus, and lots of different varieties of mountain plants that yield nectar.

I have increased to 150 colonies; have had several swarms come to my yard from the mountains. There are plenty of bees here in the mountains wherever they can find water. I have colonies that have stored over 40 pounds since the rains started.

I have noticed several articles in the American Bee Journal as to priority rights. I will tell you how I settled it here. One of my neighbors (a good-natured fellow) had 2 or 3 colonies. During the warm days of the spring my bees commenced robbing his. Before he noticed it they "had cleaned him out." In a joking way he said he had even to burn his hives to keep my bees from carrying them off.

I do not consider this the best means to settle it, but it worked in this case. They might not come in this direction next time.

Don Luis, Ariz.

Locating an Apiary—Pollination, Etc.

BY PROF. A. J. COOK.

There is no one question that ranks in importance, or which should receive more thoughtful consideration by one just starting in bee-keeping, than that of location. Of course, one's surroundings of people, scenery and climate are important, but one can hardly go amiss of pleasing prospects in these lines, anywhere in our favored country, and so we have only to look to it that we secure the conditions that make for success in our chosen line. At the present time we have knowledge that makes it possible to select wisely in relation to this crucial point.

We now know that excessive rains, and even more—drouths—are inimical to nectar-secretion, and so make against any large production of honey. In nearly all sections, where we depend upon natural honey-plants, like white clover, tulip, linden, sage, mesquite, etc., we are always more or less dependent upon the rain-fall, and so can have no surety that we will have favorable seasons, and get a crop. But even supposing that the rains are rightly gauged, and we have everything just to our liking, yet the cold of the spring and early summer, especially if attended with harsh winds and heavy fogs, will stay the secretion of nectar, and work of the bees, so that we will still lament the absence of honey. In our quest, then, of the ideal honey location, we must seek some section where both these handicaps are wanting.

In Nevada, Central California—the great San Joaquin Valley—Arizona, Colorado, the County of Imperial and the Coachella Valley in Riverside County, California, we have our honey-plants in cultivated crops, like alfalfa, beans, melons, asparagus, and various kinds of fruits. These are not dependent upon the rains at all, but are kept in full vigor by irrigation. Thus we are sure that we will have the conditions for full nectar-secretion, and we have gained the first essential point.

Again, these sections are inland valleys, where the cold and damp, and the blighting winds, are not prone to come, and so the nectar-glands are not blighted, and the bees are not forced to stay in the hives. Have we not, then, in these locations the best sections for a sure honey-production of any section of the world? I have long thought so, and the experience of the last years seem to make this surmise a certainty.

Bees and Pollination.

Despite the many excellent articles in our agricultural press, regarding the necessity of pollination of plants, and the valuable service of bees in this work, I am sure that the importance of the subject is not at all appreciated at its real magnitude. We do not practice intensive agriculture as they do in Europe. Our rich virgin soil, and general thrift as a people, make it unnecessary, and so we are content to get the half loaf, when the full-sized one might as well be secured.

Who has not seen far too often the dwarfed and deformed strawberry and blackberry, and even the pear and apple, and has rightly divined the cause? Do we realize, as we should, that this imperfection, and the more frequent entire absence of fruit, is the result of failure of bees or other insects to cross pollinate the fruit? I am persuaded that many fruits will not bear at all without this important function on the part of insect pollinators, and the great part of this work must be done by the bees of the hive, as there are by no means enough of the other pollen-carrying insects to do the work.

Other plants will bear when all conditions are favorable, but will refuse to do so when weather or climate lays a heavy hand on the growth and vigor. Such plants will not refuse when the flowers are cross-pollinated. In some cases a part of the bloom will be fertile to its own pollen, while other will be sterile. The deformed berry is the result of only partial pollination. Gnarly apples and pears are not unfrequently the result of the same lack of pollination.

I make bold to say that the time will come when science will be so well understood that special pains will be taken to secure enough bees in every agricultural section so that every fruit and tree will do its best. If every farmer would select out one child, and give him every opportunity to study and manage bees, giving him or her the entire proceeds of the hive, we would not only have many more of the children of the farm held to the farm, but we would have a greater gain in the better accomplishment of this all important work of cross-pollination.

In the olden times almost every farm had its few colonies of bees. True, these

Golden Apiary of W. O. Corey, Don Luis, Ariz.
(Mountains only 2 miles away.)

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were in old box-hives and were poorly managed. This condition may well be restored, except that the bees should be kept in the best of the improved hives, and managed in the most improved manner of our best apiaries of today.

HONEY CROP NOT A TOTAL FAILURE.

The abundant rains of last winter gave us great hope of a bountiful honey harvest, in almost all parts of our State. Especially was this true in our lovely Southland. True, the rains were not as heavy as in some years, but they were so timely that we had great hope. But with the spring and early summer came very cool days and nights, with cool breezes, and so the nectar-glands were paralyzed, and we secured very little honey. Now, for two years, we have experienced these conditions of cold and damp, and have lamented a honey failure.

But this year we are not entirely desolate, as later warm weather came and we will get quite a crop, after all. In some of the more protected canyons the crop has been reckoned by the car-load. In parts of the State the cold and winds did not prevail, and the harvest has been fine. In all sections July and August have done something to make up for the failure of May and June. Thus while the season is generally poor—yes, very poor—still there will be quite a showing for our State, after all.

ROBBER-FLIES.

These great dipterous or two-winged flies are very common in Southern California. We have both types—the great black ones with their long, slender bodies, and the yellow hairy ones, much like the bumble-bees in form and appearance. We can but admire these brave robbers, for they kill many of our worst insect pests, and their courage in seizing even the worker-bee is surely to be admired. I recently saw one such capture and struggle. The fly grasped the bee with its strong legs, and held it despite the struggle and masterful effort of the bee to escape, and at once proceeded to insert its great, strong rostrum or beak, and to suck bloodless and lifeless its unwilling victim. It is to be regretted that these flies thus maraud on the workers of the hive, but as they do so much good we will not treasure it up too seriously against them.

Claremont, Cal.

Beeswax and Digestion—Increased Sale of Honey

BY DR. G. BOHRER.

On page 269, under the above caption, Dr. C. C. Miller criticizes my article on page 241. Part of it he does not find fault with, and I rather think that when he comes to understand it fully he will accept about all of it as not much out of joint. He seems to think I am upsetting the arguments of Rev. R. B. McCain on the same page, and just before mine. Now, please, Doctor, read the McCain article again, and you will learn that he has reference entirely to the adulteration of comb honey. And he is entirely correct. But he does not say one word about bee-sting poison. But you claim that according to my statements, bee-sting poison is sure to be absorbed by the honey in the cells.

In this you are in all probability entirely mistaken, as the particles of poison expelled by bees, when their hive is jarred, most likely never reach the honey in the cells at all, as the bees never put their feet nor the tips of their bodies into the cells, nor dip them into the honey. But without doubt, it is spread over the bees, and in moving about over the combs a part of it is with next to no doubt spread over the surface of the comb; and, as I have stated on more than one occasion, is taken into the human stomach when eaten with the comb, which, as you know, in a few rare instances, produces spasmodic colic. And, Doctor, you know such people never buy honey to use as food for themselves. So that you, as a comb-honey producer, can not get rich selling them comb honey.

But if I am not entirely mistaken, in uncapping honey with the uncapping knife the bee-sting poison is removed, so that when the honey is extracted it is free from bee-sting poison and wax. The latter being wholly indigestible and in no way available as an article of nutrition to the human body, whatever action it may have or influence it may exert upon the digestive organs, is entirely of an irritating character. And the extracted-honey producer may be able to sell this class of persons honey. See the point, Doctor?

And as to the matter of feeding the little honey from the cappings back to the bees, becoming the means of mixing the bee-sting poison with the surplus honey, you need not, I think, borrow any trouble, as bees, you know, are fed for two general purposes—the one to carry them through winter, and the other to stimulate and aid them in brood-rearing.

You ask me how I know that bees invariably thrust out their stings, and that poison is expelled upon any jar of the hive. In reply I will say that I have seen it so often that I feel fully justified in arriving at such a conclusion. And in the presence of your experience, I feel somewhat surprised to learn that you doubt the correctness of this view.

You also say, "Please tell us *how* the spread of *your* facts is going to increase beyond any demand heretofore known, the sale of honey." *I never said your facts;* and whatever this remark may be intended to mean, you said it. But, Doctor, I did say, and now repeat, that in all I have said or written, I have done no guessing in regard to the influence of comb honey upon a very few persons, as regards its producing spasmodic colic. And I will also say that I feel quite confident that, as the people become acquainted with the requirements of the pure food law, and the effects of a rigid enforcement of the same, the sale of honey, both extracted and comb, will be very largely increased. People have for ages been acquainted with the excellent qualities of unadulterated honey, but you well know that for many years the custom of adulterating honey with glucose has been conducted upon such a gigantic scale that pure extracted honey was regarded as difficult to obtain in the markets; and that this must exert a demoralizing influence upon the sale of honey, you certainly understand. You are also aware of the fact that many people were led to believe that honey producers manufactured comb, filled it with artificial honey, and sealed it so nearly as the bees do that it was difficult for even an expert to detect the counterfeit.

And, further, as to the spread or reprint of my article in question, I have been written to from a distance for permission to publish it in local papers, which has been done. As to how many papers my print it, I have no means of knowing. I am, however, informed that where it was republished, physicians endorsed my views, and groceries were selling honey in larger quantities. So that I perhaps need have no deep regrets to express, nor apologies to offer, for having written the article in question. I am also convinced that I can produce more honey, and with less labor and expense, in the extracted form than I can in the comb. And to say the very most in behalf of comb honey, the wax or comb is to honey what face powder is to the human complexion—simply ornamental.

Lyons, Kans.

Illinois State Convention

The Illinois State Bee-Keepers' Association will meet Nov. 19th and 20th, at the State house in Springfield. We may have no program except what will be made up by the best of our bee-keepers—which is always better than a set program, if those present are alive to their opportunity.

The Illinois State Bee-Keepers' Association has made arrangements with the State Board of Agriculture to have bees handled in cages at the State Fair. In one cage, for the purpose, a foulbroody hive will be shown up. Louis Werner, of Edwardsville, will do the manipulating. JAS. A. STONE, *Sec.*
Rt. 4, Springfield, Ill.

Northern Illinois Convention

The annual meeting of the Northern Illinois Bee-Keepers' Association will be held in the Court House in Rockford, Ill., Tuesday and Wednesday, Oct. 20 and 21, 1908. All interested are invited to attend. B. KENNEDY, *Sec.*
Cherry Valley, Ill.

The Panhandle Convention

The Panhandle Bee-Keepers' Association will meet in Knights Golden Eagle Hall, corner 38th and Jacob Sts., Wheeling, W. Va., Monday, November 16, 1908. W. L. KINSEY, *Sec.*
Blaine, Ohio.

Bee Journal for 1907—40c.

We still have on hand some complete volumes of the American Bee Journal for *1907*, which we will mail for 40 cents each. The first half of that year the Bee Journal was issued weekly, and the last half monthly, which would make 32 numbers. And all of them for only 40 cents! Surely this is a bargain for any new reader who has become a subscriber this year.

American Bee Journal

Conducted by J. L. BYER, Mount Joy, Ont.

Small Yield from Buckwheat.

On page 273, I stated that "prospects" were good for a flow of honey from the buckwheat. Unfortunately, dry cold weather ensuing just after that was written, knocked out the yield we were expecting, and we have to be content with a meager 15-pound per colony yield. However, brood-chambers are crammed full of buckwheat honey, so feeding will not be necessary.

After all, our surmise was correct in so far as "best late flow" in our locality, as our crop from buckwheat, small as it is, is the most we have ever obtaintd from that source. Be it understood that is, is the most we have ever obtained plant has been grown in our section.

A Buckwheat Story.

In connection with buckwheat as a honey-yielder, the writer a few days ago had a hearty laugh over a story told him by a farmer bee-keeper who also raises poultry quite extensively. The first year that buckwheat was sown near his place, when the plant came in bloom nicely, a decidedly bad smell was noticed about the hives in the evenings. Not being acquainted with the peculiar odor of freshly-gathered buckwheat honey, my friend came to the conclusion that some of his chickens had died under the hives and were responsible for the trouble. Two or 3 evenings he and his good wife searched among the bees in an effort to find the dead chickens that were so offensive, and failing to find them, were at a loss to account for the peculiar and unpleasant situation, for, as they said, "their neighbors were turning up their noses in disgust every time they went past the place."

One morning when examining a strong colony, the odor was located without a doubt as coming from the inside of the hive, and lo, the mystery was solved at last. "The bees had foul brood." That same day, a well-known bee-keeper happened to be passing, and our friend hailed him at once and told of his "misfortune." Needless to add, that when Mr. Bee-Keeper came and examined the bees, a hearty laugh all around was in order.

A Very Dry Time in Ontario.

Today (Sept. 22) we extracted the buckwheat honey at the Altona yard. The day was hot, and as a consequence of bush fires off a distance from us, a heavy pall of smoke pervaded the atmosphere all day. Whether the smoky air was responsible or not, I can not say, but for some reason, not a bee would offer to rob. Scarcely a bee was flying, and hives could be opened, bees shaken or brushed off the combs with as much comfort as if a heavy flow of honey was in progress. A wet cloth over the comb box was used in the morning, but even that precaution was not necessary, as the bees would pay no attention to anything beyond showing a desire to get back into the hives and *staying there.* As we have never before had such an experience, we can attribute their actions to nothing else than the smoky atmosphere.

Let me say that we are experiencing one of the worst drouths that has ever occurred here, no rain since Aug. 5, and no signs of any to date—over 7 weeks. As near as I can learn this condition is pretty general over Ontario.

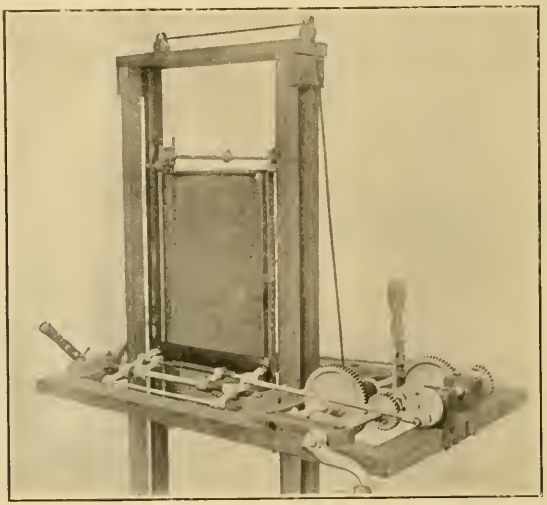
"Tall" Colony Yields 418 Pounds.

That 8-super colony shown on page 274 has done good work as is evidenced by "final returns."Since writing those items in connection with Mr. Free's apiary, I have had the pleasure of again being in the yard. Right after a big crop of clover honey came the heaviest yield of dark honey they have ever had. This crop came from the boneset that grows in a big marsh along the river Trent. The honey, the flavor of which (in the writer's opinion) is delightful, is, if I am correct, not often heard of here in Ontario, and as near as I can find out the plant is not generally counted on as much of a yielder.

Returning to that big hive; the history for the season is as follows: The colony, in a standard 8-frame Langstroth hive, was wintered in the cellar, and received no help in the way of brood or bees from other colonies. When the brood-chamber was full, the half-depth super shown, filled with full sheets of foundation, was given and the queen allowed use of all right through the season. On September 12, the boneset honey was taken from the bees and carefully weighed, and this added to the clover honey extracted earlier, made a total of 418 pounds. In addition, the half-depth body is capped solid, and will be left for winter. The bees are leather-colored Italians, and the queen was bred from a mother secured from a well-known queen-breeder. The average of the whole apiary this year is something over 200 pounds per colony.

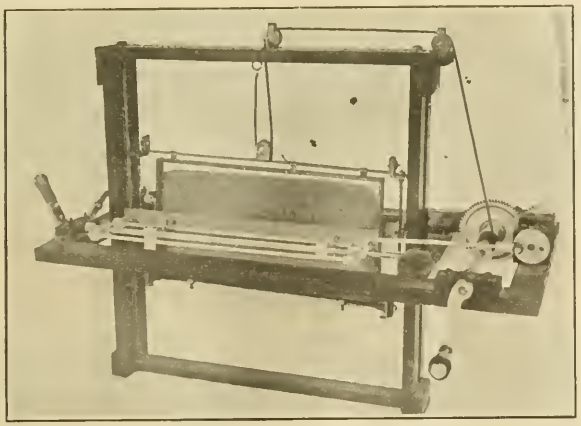
Bayless Uncapping Machine.

Mr. Wm. L. Bayless, some years ago, invented and perfected the reversible honey-extractor. For some time he worked on a new machine for uncapping. It was done chiefly in his spare moments, as the enterprise was entirely his own. It can be truly said that at last he has it perfected. It is a very ingenious yet simple device. We believe he has the correct principle beyond a doubt. The machine is built in two ways, as will be seen by the illustrations, A and B. One will uncap the comb from end to end, while the other will take the comb lengthwise and cut the capping from the bottom up to the top bar. The machine is operated by a small crank, and all parts driven by



Bayless Uncapping Machine Style A.

American Bee Journal



BAYLESS UNCAPPING MACHINE - STYLE B.

cog-wheels and leather-rope belting, similar to that used on sewing machines.

The knives, made of good cast steel, work backward and forward with a good cutting motion, while the frame moves downward or upward, as the will of the operator may direct. The knives are double-edged, and will cut as the comb passes either upward or downward. It is so adjusted as to cut a very thick comb or a thin one, or a comb the thickness of which varies. All these variations are absolutely under the control of the operator.

The comb must be a little wider than the top-bar in order to use style A effectively. This is the machine that cuts from end to end.

Style B will cut any thickness of comb, provided that the end-bars are not too wide. But where top-bars and end-bars are made with a view to the use of this machine, it may be freely said it will uncap anything in the shape of a Langstroth. In fact, the machine can be built to suit any particular-sized frame which may be a special hobby with any particular bee-keeper. To Mr. Bayless belongs the discovery of the "principle" and "action." This may now be adapted to any size of frame.

We desire to say that Mr. Bayless has not written this article, nor dictated it in any way. He is an extremely modest man, and as yet has made no effort to place his device upon the market; in fact, we believe he scarcely realizes what a good thing he has. He will, however, protect his machine with a patent. When in the city a short time ago, Mr. Wm. McEvoy, and Mr. A. Comire of Quebec, called upon Mr. Bayless to see the machine. Mr. F. P. Adams and the writer accompanied them. Mr. and Mrs. Bayless received the party cordially. The machine was shown and closely inspected. Mr. McEvoy was enthusiastic in his praises, and ordered one on the spot. We unhesitatingly declare that we believe the machine will be a success.—Canadian Bee Journal.

Look Out for Canucks at Detroit!

Ho, for the "National" at Detroit! As nearly as I can learn a large number of Canucks will be present, and quite possibly be in "the majority," and as a matter of course, they will vote and have the word "National" changed to "International." See?

Joking aside, this scribbler, for one, is looking forward to a whole lot of pleasure in meeting a host of friends that *he has never seen.* With this thought in mind, a glance at the clock reminds me that it is past bed-time, so I "ring off," with a "hope to meet you in Detroit, October 13."

By W. A. PRYAL, Alden Station, Oakland, Calif.

Dahlias for Honey and Pollen.

An old-fashioned flower that has almost suddenly come into popular favor again is the Dahlia. We older folk well remember in our childhood days that our parents cherished those formal flowers; how stately they were and how profusely they bloomed! But the advent of the cactus-flowered varieties has added new interest to the flower, and to-day we have some gorgeous specimens—flowers of large size and almost fantastic shapes. As a boy, I liked the old dahlias; to-day I like them better than ever, and I think the newer sorts vie with the rose in beauty. They are free from disease and few insects prey upon them—and those only of the "chewing" kind, which can be easily destroyed.

The past season I have had quite an array of plants and colors galore growing in my garden. I am much pleased to notice that bees seek the flowers and work upon them the day through. They gather both nectar and pollen. With us the plants usually begin to bloom in August and so continue until December, thereby adding to our bee-pasturage at a time when nectar-secreting flowers are much needed. Of course, I do not advocate the planting of these flowers for honey alone, but there is no reason why every bee-keeper's garden should not contain a number of these pretty and showy flowers.

Outdoor Feeding of Bees.

Do not encourage a bee to become a robber; better kill the bee. A few days ago I visited an elderly apiarist and to my surprise I saw a milk-pan half full of honey sitting on an old box under an oak tree close to his colonies. Of course the bees were swarming on the honey, and hundreds were drowned in the liquid, as no pains were taken to put floats in the honey to protect the bees. Bees all bedaubed with the sticky stuff were crawling about the apiary, nearly all of which would never reach their hives.

To say nothing of such a method being a wanton destruction of bee-life, it is also worse on the bees in another way. The very smell of honey so easily obtainable right in the apiary at once starts the bees robbing, and woe to the colonies when the bees get right down to a genuine case of robbing in the fall of the year. I venture to remark that no bee-keeper, even of the most perfect disposition, would long wear his best smile when he found his bees at such work in full tilt. How I should like to see Dr. Miller amid a robbing crew; if I did not find him using language as hot as the time the bees were making for him, I venture that beautiful and peaceful smile Editor Root so recently pictured in Gleanings would disappear, and the good Doctor would be wearing another face! But don't let it be supposed for a moment that the Doctor would say things unpleasant; I feel sure that he would let his face do the talking.

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The Wide-Open Hive Dangerous.

When visiting a bee-keeper recently I was astonished to find that many of his colonies were in hives that were almost as open to the weather as a saw mill. When I remarked that such wide-open hives seemed to be a standing invitation for robber-bees to "just walk in and help yourselves," I was told that the robbers did not seem to discover the big openings. I suppose one reason such exhibitions of the contents of the interior of the hives did not cause serious trouble was owing to the fact that all the colonies in the apiary were well separated from each other. I know that where hives are near together it is almost impossible to open one hive without having the bees from adjoining hives make an onslaught on the one undergoing manipulation. I believe that an "open apiary" is as demoralizing as an "open town." I would set it down as a motto for bee-keepers that the secrets of the inside of each colony should be screened from the view of the outside world as much as the secrets of one's household.

Loss of Heat in Hives.

Speaking of unduly ventilated colonies reminds me that the robbing they might provoke is not their only bad feature. In winter it is well to conserve all the animal heat of the colony, especially in a cold climate. The bees will build up faster and store more comb honey. In climates like that found in a large portion of California it may not make so much difference whether the bees are in a close, snug hive or not, so long as the bees are good fighters and are well protected from the rain. Rain, moths, robbers and foul brood are the bane of the bee-man.

The Height of Hive-Stands.

Some authorities advocate low stands for the hives, while some recommend tall ones. With a couple of exceptions, all my colonies are near the ground—some 4 inches above terra firma. In our climate I find this sufficiently high for hive-stands. I know a bee-keeper who has nearly all his colonies resting on the earth. No alighting boards are required. He claims that he has found no serious results follow from having his bees so placed. Ordinarily this might be so, but it has many ill features. In the first place, the bottom-boards will rot sooner; they will be damp and disagreeable for the bees in winter unless the under side is tarred; if the ground slopes to the entrance surplus water during a rainstorm will run into the hive; grass will clog the entrance far worse than if the hive were elevated; insects and reptiles may crawl into the hive and molest the occupants; skunks have better opportunity to coax the bees from the hive and destroy them; and lastly, but not wholly, the bee-keeper's poor back has to be subjected to unnecessary stooping when working over the hive upon the ground.

So give me the hive off the ground—the higher the better, perhaps.

Report of the Chicago-Northwestern Bee-Keepers' Convention.

(Continued from page 273.)

SWARMING INDICATIONS.

"What are some reasonably certain ordinary indications of swarming?"

Dr. Miller—None.

Mr. Taylor—Bees in the air!

Dr. Miller—That is no sign. Bees are likely to be in the air anyway. I don't believe that there is any outside sign upon which you can depend, as to whether the colony is likely to swarm.

Mr. Whitney—I was watching one of my colonies a few years ago. I saw an unusual commotion on the part of the bees. Started for a queen-cage. I believed they would swarm in about 20 minutes. I had just time to catch the queen. I believe there is an outside appearance.

Dr. Miller—There is a sign that within 24 or 48 hours a swarm will issue. A prime swarm will not give any sign. But an afterswarm will give a sign. You can hear the young queen piping. Then you will know that a swarm is likely to issue within 24 hours. Only one queen will pipe. Three or 4 may quahk, but only one will pipe. The queen that is free will make a shorter noise than the others.

Mr. Whitney—Another outside evidence occurs to me. I had a frame out one time looking it over. There was a young queen on it, making that piping noise. She poked her head into a cell and made that noise. I was quite certain that a swarm would issue the next day, and I found it so.

Dr. Miller—The free queen has a higher pitch than the others that we say are "quahking." Those who are quahking commence with a shorter tone. The first one is a long, high note, and then a little shorter, and a little shorter. They will be answered by the others with a lower pitch and the different tones that they make will be equal in length. That's the way they used to do it. Maybe they don't do it now.

HONEY MARKET IN ILLINOIS.

"Will Dr. Eaton give a few words about the present condition of the honey market in Illinois?"

Dr. Eaton—I must confess that I am not quite so well posted on the honey market in this city now as I was 2 years ago. However, in my work as an analytical chemist, I sometimes inspect the grocery stores of the State, and my own work in that line leads me to take quite an interest in seeing what is on the market. And naturally I get, now and then, samples of honey for analysis. I always take a great interest in the meetings of this Association, and also the meetings of the bee-keepers wherever I may happen to be, my first interest having been with the Minnesota State Bee-Keepers' Association. And whether I am in official work or not, I like to drop in at those meetings. I always find something of interest to me as a chemist. I might say that this Association is largely responsible for the Illinois State Pure Food Law. Had it not been for this Association and the State Association, I don't believe there would be an Illinois Pure Food Law. Those two associations made possible the State Pure Food Law.

When this Association first took hold of the work, before the State had a pure food law, they gathered a number of samples—40 or 50, I believe—and I did the analytical work. We found about 33 1-3 percent of those samples adulterated. They were all sold for pure honey. That same proportion of adulteration kept up for 2 years after that. The law was not very vigorously enforced at first. The penalty was not enforced at once. Therefore, the adulteration did not decrease immediately. But the last few years the adulteration began to grow less. Only one sample of adulterated honey was found the last year of my connection with the Pure Food Commission. We practically drove adulterated honey off the market. Now there is quite a good deal of mixtures of honey on the market. It is, however, generally labeled in conformity with the National requirements, stating the percents of the mixtures, whether it be cane sugar or glucose. But that form of adulteration has probably grown in the last few years; that is, the labeled mixtures, not the adulteration. It is probably due to the higher price of honey and foods in general. We find quite a good deal of mixed honey on the grocery shelves. They can not be any very great detriment to the buyer who will buy pure honey in preference to mixtures if he knows what he is buying.

I suppose you all noticed the reports of the convention in France, where they spoke of a mixture of invert sugar with honey, and said that that article would enjoy a wide sale, and claimed that it is already being produced in the old country. That is, of course, an ideal form of adulteration. It is a form of adulteration that is going to be hard indeed for the chemist to detect. Honey is largely invert sugar, and if the adulteration is made of invert sugar, and flavored with honey, it will be very hard to detect. This applies to extracted honey. I know of no way to adulterate comb honey. I don't know that people have attempted to adulterate comb honey, but I would not like to say so off-hand

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Whether it is profitable or not, I don't know.

This invert sugar, however, could be used only in extracted honey, and no one need fear to purchase comb honey lest it will be adulterated in that way. I don't know of any adulteration of honey with invert sugar at present. As long ago as 1887, Dr. Wiley, of the United States Department of Agriculture, got out a bulletin on honey, and mentioned several samples of honey which he said he thought were adulterated with invert sugar, and put them in a suspicious class. Mr. A. I. Root was well acquainted with one of the samples, and was certain that it was not adulterated with invert sugar. The invert sugar can be made in two ways. First, by inverting the sugar with acid; and also by inverting the sugar by mixing with a ferment, or invertose. A very small amount of invertose will work very rapidly. Perhaps it will be used to adulterate extracted honey.

CROP REPORT FOR 1907.

"What is your crop report for 1907?" Dr. Bohrer—Had no crop.

Pres. York—How many didn't get any crop this year? 6.

Dr. Bohrer—While we used the extractor and got some honey, we will have to feed it back.

(Continued next month.)

Three Methods of Selling Honey.

Mr. Townsend made a remark in last month's Review, the truth of which some of us have failed to realize, viz., "that it costs money to sell honey." If we ship our honey off in a lump to some wholesaler or jobber, it might be said in one sense, that it cost nothing to sell it; but look at the lower price that is received. If a man sells his extracted honey at wholesale for 8 cents a pound, when some retailer could pay him 9 or 10 cents, then this 1 or 2 cents less on a pound, for which he has sold his honey, is really what it cost him to sell his honey. Or it might be carried still further, by saying that, as the consumer pays 12 or 15, or 20 cents a pound, then the difference between what the producer actually gets, and what the consumer pays, is what it costs to sell the honey.

There are really three methods of selling honey, viz., wholesaling, jobbing and retailing. Most of the large dealers in honey are what might be called "jobbers." They buy at wholesale, in large quantities, at the lowest prices, and then sell it in job lots, at a slight advance, to bottlers and retailers. It has always been something of a wonder to me why more producers have not sought out and secured this jobbing trade, and thus saved the wholesalers' profit; and, still further, I have wondered why bottlers and retailers do not go direct to the producer, of whom they could often buy at lower figures than of the jobber. To be sure, it would cost the producer something, at first, to find out the bottlers and secure their trade, and the same might be said of an attempt on the part of the bottlers to buy direct of the producers, but in the end it would be advantageous to both classes.

I expect it is something like this: A producer does not know who are bottlers or retailers; he does not know of the wholesale dealers, that they are reliable, and, as a rule, when honey is sold to them, there is no more trouble or anxiety. The retailer trusts the jobber and knows that he can get what he wants from him. Of John Jones, living at Oshkosh, he is not so sure.

For these reasons there will always be wholesale dealers in honey, and, for a large class of producers, it is well that they exist; but men who are adapted to the work can certainly make a good profit by reaching out and securing a portion of the jobbing trade—bottlers, retailers and those consumers who buy large quantities. It costs something to advertise, send out samples, write letters, etc., but once such a trade is built up, it is easily held at a slight expense.

There is still another step that many bee-keepers can take—that of putting up their honey in retail packages; and selling direct to consumers or to grocers. Not all bee-keepers are adapted to this, or live near the right kind of locality, but where the conditions are favorable, the retailing of one's crop of honey makes very profitable work for fall and winter months.

My plan is that of selling to bottlers, retailers, and large consumers. It fits my conditions the best of any plan, but, if I had the spare time in fall and winter that most bee-keepers possess, I should go one step further, putting it up in retail packages and selling direct to consumers. The field here is an excellent one, and I just ache at times to go at it and show what can be done in that line, but my hands are too full of other work to allow of such a thing.

Each man should study the matter thoroughly, and then adopt that method best suited to his conditions. Not every man can retail his own honey; neither can we all be our own jobbers. For instance, Mr. M. A. Gill, of Colorado, who produces about a car-load of comb honey each year, says it is more profitable for him to turn the honey over to some one whose business is that of selling, while *he* will turn all of his energies towards the production of another crop.—Bee Keepers' Review.

Bottom Starters Built First.

Last season we used on half of our colonies a 7g-inch bottom starter, and over half of them were built at the bottom first, some not at the top at all. Of course, we had no honey-flow But I find it the case always in the fall at the close of the honey-flow.—R. L. HALE, in Gleanings.

Signs of Queenlessness.

I wonder if one of the signs of queenlessness has ever appeared in print. Suppose you have a colony thought to be queenless to which you wish to introduce a queen. There is often a danger that, by some hook or crook, a virgin queen may be present, perhaps reared from a cell that has been missed, perhaps an interloper from elsewhere. If you find honey in pretty much all cells in the brood-nest not already filled with brood, you may feel fairly safe to introduce your queen. If, on the other hand, you find these cells empty, and polished so they shine, ten to one there's something in the hive that the bees respect as a queen. If you find honey in worker-cells, and drone-cells empty and shining, the bees are likely to have been queenless for some time, and perhaps laying workers are in contemplation.

[You are orthodox in all you say. We use these signs in connection with other evidences that may or may not be present in determining the condition of the colony; but strangely enough, very little, comparatively, has been made in print of the fact whether the worker cells have been filled with honey or are empty and polished up clean. If polished, and no eggs are in them, it indicates that a virgin is present and will probably lay soon. Or the condition may show that a laying queen has just been let loose from a cage and will soon deposit eggs.—ED.]—Stray Straws in Gleanings.

Does Buckwheat Yield in Clover?

This question was raised in The American Bee Journal by J. L. Byer, on page 236. Referring to the same, R. F. Holtermann says in Gleanings:

"I have had some experience in a buckwheat and clover section, and I have had the experience of other bee-keepers similarly situated. We have often found that the bees worked on buckwheat during the clover season. In my estimation an ideal buckwheat morning would be an ideal clover morning. It seems to me that, when clover does not yield well, buckwheat may; or if clover is not very abundant the bees will work on buckwheat. I have also found Italian and Carniolan bees less likely to work on buckwheat when they can obtain white honey. This latter has been my experience again and again."

Uncapping Honey.

Speaking of the Bayless uncapping machine, The Bee-Keepers' Review says:

"It is always risky, not to say unwise, to criticise a machine like this that one has never tried, much less seen, and I shall not attempt anything of the kind, either of the machine or of its work, but, nevertheless, I can't help wondering if those who have given so much thought to uncapping machines heve ever seen combs uncapped under the most favorable conditions. Let the combs be those that have been in use a few years, until they have become quite tough and hard. Space them wide apart so that the bees will add wax to them as they fill them. This new wax will be soft and easy to cut, while the old comb beneath will furnish the firmness.

There will also be a sort of mixture of the two kinds of comb at the juncture where the knife passes through, thus the old comb will furnish enough of the hard material so that the part that is to be cut will lack the soft, stickiness that characterizes very new comb. Have the frames only 7/8 of an inch in thickness, and space them wide enough so that there will be about 1/4 or 3/8 of an inch to shave off

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each side of the comb. It will be seen that one of the secrets of quick uncapping is in having exactly the right kind of combs in the right kind of frames. Have a sharp Bingham knife long enough to reach clear across the comb; yes, have two of these knives, and, when not in the hand in use, let them stand in a dish of water kept near the boiling point by a lamp stove. Have a sharp point, like the point of a nail driven up through a board upon which to rest the end-bar of the frame.

"Give me such conditions, and I would like to try a race with any uncapping machine into which the frames have to be placed and removed. One sweep of the knife, and the cappings from the entire side drop off. A flip of the comb, turning it upon the point of the nail, another sweep of the knife, and the cappings from the other side drop into the dish below."

Even should it turn out that Editor Hutchinson would be worsted in an encounter with an uncapping machine, there would probably always be beekeepers with very few colonies who could hardly afford a machine, and such will read with interest the way Mr. Hutchinson does it by hand.

Size of Larvae for Grafting.

When using larvæ to graft into cell-cups, the beginner is told that he must select those of a certain age. But he is puzzled to know just how he can tell this from the appearance of the larvæ. Here is something exactly to the point, given in Gleanings:

"Mr. Pritchard believes that any larva not yet curled up so that the two ends nearly meet is suitable for grafting, and he therefore selects the largest and finest-appearing larvæ that are yet comparatively straight in the bottoms of the cells. Furthermore, whenever he is looking over the combs in the strong colony containing the breeding queen, and finds a small patch of comb in practically every cell of which eggs are just beginning to hatch, he marks this carefully by enclosing the space with large wire staples such as are used to fasten bottom-boards on hive-bodies, etc. Small sticks will not do, for the bees carry them away; but these large wire staples answer the purpose admirably. Two days later, when he is ready to graft, he takes up this comb which he marked, and selects the finest of the larvæ between these staples. He is thus practically sure of obtaining what he wants."

Blacks Running Out Italian Bees.

No doubt many a bee-keeper has been puzzled to understand how it is that there is a tendency toward black blood, even in localities where Italians are specially favored. Light is given upon this point, as well as upon some other points in the following extract from a conversation with F. R. Beuhne, given in Gleanings:

"How do you succeed, Mr. Beuhne, in getting early drones from a select breeder in sufficient numbers so that all young queens in the early spring will mate with these selected drones?"

"The only satisfactory way I know of is to introduce those queens, from which we desire to rear drones, to strong colonies of black bees during the winter, having supplied such colonies with the necessary drone comb in the right position in the hive. As black bees will breed earlier in the spring than Italians, we obtain our choice drones much earlier than would be possible with even stimulative feeding."

"We find that our Caucasians will breed a hundred drones to the Italians one. Whether the Caucasians would be the equal of the black bees we could not say; but we believe that your suggestion of putting choice Italian breeders into stocks of bees of strains that will rear more drones than Italians, and earlier than Italians, is a good one. Now, Mr. Beuhne, it has been observed by bee-keepers of both continents and both hemispheres, that, where Italians largely predominate through selection in breeding, if the bees are left to themselves, and if there is some black blood in the locality, all the bees in that locality will sooner or later degenerate back into hybrids or blacks. Do you account for this by the tendency in the blacks to rear drones in larger numbers, and earlier?"

"Yes, I do. In addition, we must bear in mind that blacks are usually allowed their own sweet will in the way of building drone-comb. There is also no check on the age of queens. Under these conditions, and the well-known fact that black bees can rear brood at a lower temperature, it is but natural that the race of bees in a given district should gravitate toward the black race. There is another thing in this connection; and that is, that the black bees (and that would include the drones), being less susceptible to cold, would be out in the air more than the yellow bees."

Failure with Foundation Splints.

In Gleanings, E. F. Atwater gives illustrations of combs in which foundation-splints have been used, and the bees have gnawed the foundation in two, in one case half way from the bottom-bar to the top-bar. Commenting on this Editor Root says:

"Figs. 2 and 3 do not give one a favorable impression of wood splints; but we are prepared to say in this connection that we saw nothing of this kind at Dr. C. C. Miller's apiary. He showed us comb after comb built from foundation stayed with wood splints, and these combs were as flat as a board, without any suggestion of wooden stays in the midrib; and what is more, they were filled out to and in contact with the bottom-bar. One strong claim made by Dr. Miller for splints is that, by means of them, one can use sheets of foundation reaching clear down to the bottom-bar."

Scientific Entomologist and Foul Brood.

At the 20th annual meeting of the Association of Economic Entomologists, as reported in the Journal of Economic Entomology, a paper, which brought out considerable discussion, was read by Dr. E. F. Phillips, in the course of which he said:

"The present weak point in State inspection seems to the writer to be a lack of the proper kind of supervision of the inspection. The inspectors are usually good, practical bee-keepers, and are experts in the detection and treatment of disease. As a rule, however, they know little of the methods used in other lines of inspection and are equally uninformed on all other phases of entomological work which would be valuable for purposes of comparison. It would be desirable, therefore, that Canadian inspection be under the supervision of the State entomologist; not that the entomologist himself should do the work, for he has enough to do, but that the inspector should be responsible to him. In fact, in most cases, a practical bee-keeper would be better able to handle disease than the entomologist who may not be trained in the practical manipulation of bees, which is an absolute essential to effective work. In Texas the State entomologist is also foul-brood inspector, but has 4 assistants who do the actual inspection.

"I would not have any of the previous statements interpreted as reflecting adversely on the present inpectors; their work commands the highest respect, with but few exceptions. The official entomologists may feel that such a recommendation tends to impose additional arduous duties on men already overworked, but apiculture is a branch of economic entomology, and the honey-bee, as a most beneficial insect, demands attention. The only reason for suggesting this supervision by the State entomologist is the belief that an entomologist is better able to direct in this work than any other State official. If the entomologist is also a trained bee-keeper, the efficiency of the work would be inestimably increased."

Specialty vs. Amateur Bee-Keeping.

Our occasional correspondent, Mr. L. E. Gateley, presents this criticism in the July number of the American Bee Journal:

"The attitude of various apicultural papers on certain questions pertaining to practical beeculture, is at times quite amusing to the man who has for any time been engaged in the production of honey. For instance, Mr. Hill says in the April Bee-Keeper:

'While The Bee-Keeper does not recommend bee-keeping as a money-making specialty, it believes that a vastly greater number of colonies than is now kept might be made profitable.'

"How is that for a paper that stands second to none in advancing and holding out for the latest and most progressive ideas relating to intensive and extensive apiculture?"

I am unable to detect the remarkable part of the paragraph quoted by Mr. Gateley Though it may appear obscure or illogical, or inconsistent to others, it appears very clear to its author and he takes occasion here to emphasize it. I believe that the number of colonies in the United States might be doubled and their culture might be made profitable, if they were distributed thoroughly and the owners' time bestowed upon them only when other more lucrative business did not suffer as a result. In other words, a small apiary well cared for during spare time is nearly always profitable. If Mr. Gateley would read more carefully he would note the distinction between bee-keeping as an avocation and beekeeping as a specialty. The specialists who have succeeded are rare; and, though I wish he might do so, I venture the prophecy that Mr. Gateley will never own a national bank nor build a trunk line railway from the proceeds of his bees. It is well, in a way, that we have the enthusiast with us. A man should ever be enthusiastic in his calling, but when his enthusiasm is the cause of financial loss to his trusting friends his influence works no good, or, if good, it is offset by the preponderance of evil which it begets. One, or a half-dozen successful seasons with a limited number of bees should not blind us to the fact that the history of bee-culture, as a specialty, from the viewpoint of a money-maker is not encouraging.

Mr. Gateley's inference that the editors whom he criticises are without experience may be a trifle weak, too. His experience may be more extensive than my own or than Brother Root's. Mr. Root has certainly had the opportunities, and I have no doubt they have been improved. As for myself my experience began in childhood and the present color of my hair indicates that that must have been some time ago. It has been my pleasure to be associated with some of the most extensive producers of honey, and to have the management of some of the largest apiaries in the United States, numbering their colonies by thousands, and to note by experience the conditions and possibilities on all sides of the United States, from the Atlantic to the Pacific and from Canada to Cuba; during all of which time I have been intensely interested in the upbuilding of apiculture as a pursuit. During that period I have not met a dozen men who have amassed a competency through the culture of bees alone. Therefore, as a last word, to those who contemplate embarking in bee-keeping as a money-making venture, I desire to go on record as advising against it. Yet, as I have never been without bees during the past twenty-five years, I probably shall not be without an apiary while I remain in the flesh; for, as a side-issue, bees are profitable and afford a world of pleasure to one who, like myself, is very fond of them.—The American Bee-Keeper.

More Light on Swarming of Bees.

Under this heading, in the American Bee-keeper, Allen Latham gives an interesting account of experiments made by him. He believes that the size of frames has much to do with the encouragement or discouragement of swarming. Not merely the superficial contents of a frame, but the proper length and the proper depth must be had, and a frame may be too large as well as too small to secure best results in trying to keep down swarming. In the course of his experiments, he says.

"I next made frames 17 x 13 inside measure I constructed last season sixteen of these hives Seven frames were allowed for the brood chamber, and thirteen for the storage. Assuming not less than 10 pounds capacity per frame this hive allows a crop of 130 pounds to be stored in the absence of the bee-keeper

Into these 16 hives I put colonies of all strains, using several colonies of Carniolan origin. I surely thought that the Carniolan would find this hive to suit its swarming desires, especially as I placed 10 of these hives

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on the highest hill in this vicinity, a hill which gets the sweeping winds from Long Island Sound. Before the middle of May this year every one of the colonies with Carniolan blood swarmed or tried to swarm, though the brood-chamber was in no case taken full possession of. Two other colonies, I know, (and how many others I do not know) also swarmed. Two months have passed since I have visited the apiary and I cannot say what has happened. But this I know, colonies which I should never expect to swarm in the smaller hives did swarm in these large hives.

"It is thus easy to see that frames can be too large for security against swarming as well as too small. I am not prepared as yet to state just what the proper size is nor whether one size will suit all races of bees. I am inclined to think that for the usual run of Italians eight frames of the 14½ x 11 size just about fill the bill."

Concluding he says: "To sum up the preceding paragraph—any size of frame which tends to distort the normal shape of a brood-nest or which tends to unoccupied space below the brood is likely to encourage swarming.

"It is obvious from what I have outlined above that the Langstroth frame is a swarm-producing frame, and that frames less than 10 inches or more than 12 inches in depth are likely to lead to swarming unless preventive measures are taken. My home apiary frame is 10 x 12 inside measure. Only one of the 50 regulars swarmed this season, and it has been a bad season for swarming. To be sure, I had to apply preventive measures in two or three cases.

"My observations lead me to believe that swarm control can be looked for in the adoption of a frame of certain dimensions. Unless one does this he must adopt methods in his apiary to meet the swarming fever, methods which mean much labor and frequent loss of swarms, to say nothing of lessened honey-crop.

"Unless I now offer some reason why a certain size of frame tends to prevent swarming I fear that all which I have written may fail to convince. When a queen reaches the bottom and corners of a brood-frame simultaneously with the emergence of young bees in the centers of the frames she finds things to her own liking. The workers also are satisfied, for they will push right into the store-chamber instead of storing the first honey under the brood. With the 14½ x 11 frame mentioned above I have repeatedly found the frames solid brood except an inch of honey above. With eight such frames the best queen is satisfied, and the bees once started in the store chamber rarely acquire the swarming fever."

Modification of Shaken Swarms.

Time was when the average bee-keeper was pleased to have his bees swarm, and it is not so many years since it was held by good authority that best results could be obtained by having each colony send out one, and only one, swarm. Now it is the study of most bee-keepers to limit swarming to the utmost. One of the ways of doing this is by shaken swarms, but gradually it is getting to be understood that these are not so reliable as at first supposed. F. Greiner has studied out a plan which, although requiring more work than the usual plan, he hopes to be more reliable, and that others may try it, he gives it in the American Bee-Keeper.

Preceding this it is interesting to hear from one of Mr. Greiner's intelligence some of the troubles attendant upon the ordinary shaking of swarms. Although he operates with sectional hives, it is not impossible to use the same plan with other hives.

After saying that with all the light upon shaking swarms given by Stachelhausen and others, the practise does not in every case turn out a complete success, Mr. Greiner continues:

"In particular can we notice a lack of energy in the brushed swarm as compared with the natural swarm. A large share of the brushed swarms, swarm out the next day or on one of the following days. With all clipped queens in the yard I have had a treated colony swarm out three or four times, even continuing this to the sixth and seventh day after the making of the swarm. In some cases the hives were deserted, the bees going to some other hive in the apiary and the queens getting lost. By keeping entrance guards on all hives containing shaken swarms for one week has proved the most effective with me. But when we take into consideration the loss of time on all the colonies that do not at once adapt themselves to the new condition we cannot consider the brushed or shaken swarm a complete success.

"To be sure that swarms will not be cast we must make a careful examination of the hives every sixth day during the swarming period. Looking into the hives from the under side gives us a very good idea of what is going on; but we are apt to overlook such queen-cells as have only eggs deposited in them, even if we discover such as contain larvæ. Often we find the lower edges of combs laced with embryo cells, which in itself is not a sure indication that swarming will occur. Many a colony has been there and never goes further. I have many such now nicely at work in the sections with all swarming tendencies died away (this is July 12), and even the embryo cells or cell-cups are removed. These colonies may be regarded as safe for the rest of the season; they need no more attention except providing room.

"If by some management all colonies could be induced to act likewise, the problem would be solved. Colonies headed by old queens give us the most trouble both as to contracting the swarm fever and swarming out after brushed swarms are made. This is a fact worth remembering.

"A brood-comb left in the hive or given to the brushed swarm is productive of swarming out and swarming from 12 to 15 days later. Contracting the hive unduly produces swarming out. Giving frames filled with comb foundation seems with me the best and surest way to hold the bees contentedly, and I have decided always to use full sheets of foundation hereafter in the brood-chamber. For immediate results, hiving young swarms on frames with starters is the best here, but in the long run we obtain better results and save labor by using the artificial midrib.

"I would rather have comb foundation than fully built-out combs. The drawing out of the embryo cells of the foundation has a beneficial influence upon our colony and excites to greater action. It is probably due to this, that the plan which I have worked out this season has worked so well with me so far. This plan has also in its favor that every colony of normal or average strength may be handled according to it with the same good result and with no risk to run of producing swarming out or swarming. I have so far practised it only with a sectional Hand hive and it is only a modified shaking or brushing plan, but not all combs being brushed at the same time. Two different operations are necessary to finish the job. If a colony occupies two sections then I split the brood-chamber horizontally about the time when swarming naturally begins and place a third section between. After a week I remove the upper one and insert another section super—the first one having been given previously. The third week the lower section of the brood-chamber is removed and replaced by one filled with sheets of foundation. Thus all brood is removed in course of two weeks. It was done so gradually that the colonies did not become discontented as seems to be the case under the regular, but rather heroic treatment, I had practised before. These colonies are surprising me by the manner of their filling supers.

"The plan may be altered according to seasons and varying conditions. For example, when I found that after giving the first section and after removing the first upper half of the original hive full of brood and honey, that no preparations for swarming were made in any way, not even embryo queen-cells being started, I left a few hives in just that shape, not removing the second half of the original brood-chamber nor increasing its size, yet no swarming has resulted and the work in the section supers is going on very nicely. However, I have not tested this plan long enough nor with enough colonies to prove its working in different seasons and under different conditions, and I give it for what it is worth, hoping others will help test it and possibly work out a system of management that will simplify the work and be a help to the fraternity."

Three Hundred Billion Bees at Work

That is the striking title of an illustrated article in Technical World Magazine, written by Roy Crandall. On the authority of Dr. Phillips he gives 300,000,000,000 as the number of bees in the country, and after comparing the honey crop with some other crops, he says:

"It will thus be seen that in one year the bee-hives sent to market a product worth nearly as much as the barley crop; three times as much as the buckwheat crop; $6,000,000 greater than the rye crop, and nearly $9,000,000 greater than the rice crop. All of the rice and buckwheat grown on an aggregated area of 2,126 1-3 square miles did not reach the value of the honey by $151,259."

Speaking of appreciating the great number of insects at work, he says:

"That is rather difficult, for three hundred billion stretches a long way beyond intelligent human comprehension. The human mind doesn't work well in anything mathematically greater than thousands.

"It is said that some bank tellers become so expert that they can count 200 coins a minute. If the most expert of all were started at the task of counting as many coins as there are bees in the hives, he could finish the task in 2,854 years; provided, of course, that he didn't become either hungry or sleepy, for that 200-a-minute pace would have to be maintained every minute of the day and night."

Although Mr. Crandall is an excellent writer, the article hardly bears testimony that he has spent many years in the apiary and become very familiar with bee-literature. He speaks of the worker as "he." He says that when the famine periods come the drone is set upon by the workers, stung to death, and his body kicked out of the hive. What proportion of the drones in a colony has any bee-keeper seen actually stung to death?

Some queens have been known to lay 4,000 eggs a day *for a year;* and a battle among bees is described as "occurring "every now and then," such as not many bee-keepers have seen in a lifetime. A whole colony will suddenly decide "to loot the hive of an adjacent race." The fearful battle is vividly described, 50,000 on a side, and the writer gives a decidedly original touch by saying that when the robbers come off victorious there is sure to be a fight among themselves for the loot, until the survivors are "so few in number that their per capita supply of the captured honey is far more than they can consume."

In spite of these drawbacks, such an article, in a magazine so nicely gotten up, will help to make the public more interested in bees and their product.

Books for Bee-Keepers

Every bee-keeper should have a bee-book besides a bee-paper. On another page will be found all the best books offered—either at a price, postpaid, or as a premium. If you can not earn them as premiums for getting new subscriptions, it will pay you well to purchase one or more of them. You will find them of great value. There are so many things in the books that are needful to know, and that of course could not be told over and over again in the bee-papers. If a bee-keeper can afford only one, it would better be the book rather than the paper. But now that the American Bee Journal is only 75 cents a year, of course, no bee-keeper, however limited his apiary may be, can afford to be without its monthly visits.

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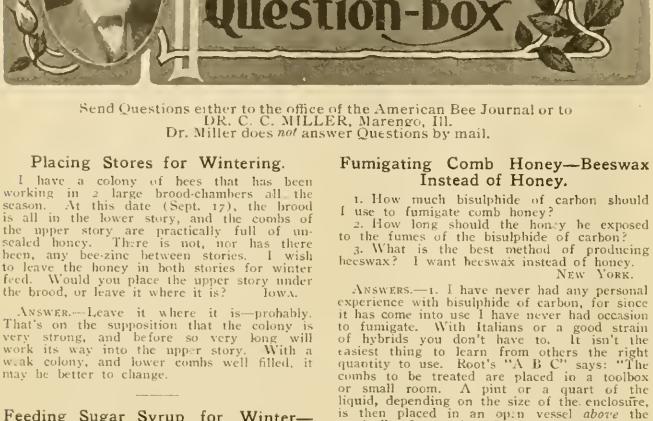


Send Questions either to the office of the American Bee Journal or to
DR. C. C. MILLER, Marengo, Ill.
Dr. Miller does *not* answer Questions by mail.

Placing Stores for Wintering.

I have a colony of bees that has been working in 2 large brood-chambers all the season. At this date (Sept. 17), the brood is all in the lower story, and the combs of the upper story are practically full of unsealed honey. There is not, nor has there been, any bee-zinc between stories. I wish to leave the honey in both stories for winter feed. Would you place the upper story under the brood, or leave it where it is? Iowa.

ANSWER.—Leave it where it is—probably. That's on the supposition that the colony is very strong, and before so very long will work its way into the upper story. With a weak colony, and lower combs well filled, it may be better to change.

Feeding Sugar Syrup for Winter—Paper Hive Protection in Winter.

1. We expect a late fall flow of honey from heartsease. I wish to take nearly all the honey and pollen from 200 colonies and feed sugar syrup. How late would you advise me to feed? Or I might feed 160 or 180 pounds of syrup at once and take all the honey from the other 100 colonies about Nov. 1, just before time to put them into the cellar, so they would have a flight or two. My idea is to feed by the 15th or 20th.

2. I gave my bees spring protection with tar paper and red rosin paper, and the 46 colonies covered with tar paper gave me just about twice the surplus honey that those 46 covered with red rosin paper gave me—a costly experiment. The bees were all in one apiary. Iowa.

ANSWERS.—1. There is no reason for any delay after the heartsease closes, so you will do well to feed immediately after that. Your idea of feeding the middle of October will work all right, but as heartsease will probably close in September you might as well be a little earlier.

2. If such a marked difference could be attributed to nothing else than the different kinds of protection it is quite important to know it.

Feeding Bees for Winter.

We have about 100 colonies of bees, and have secured no surplus, not having had any rain since early in May, and of course the bees could store no honey. Now how shall I proceed to carry bees through the winter in the best shape with least expense? When shall I begin feeding, as it is so dry now that they are into everything they can get at? And what shall I feed? My bees are in 8-frame Langstroth hives. Ohio.

ANSWER.—Feed best granulated sugar. If there is no prospect of further pasturage, you may feed at once, or any time up to say about 2 weeks before bees are likely to cease flight. If you feed at once, you can use sugar and water, half and half, or a little stronger, say 3 parts sugar to 2 parts water. If you feed late, have the syrup still stronger, 2 parts sugar to 1 of water, or even as strong as 5 parts sugar to 2 of water, either by weight or measure. No need to cook the feed, only to dissolve the sugar in the water, only if the syrup is strong it hastens the work of dissolving if hot water be used. Whatever you do, don't burn the feed, for burnt syrup is death to bees in winter. If you feed late there is an advantage in giving the feed hot; the bees take it more readily. The Miller feeder is probably the best thing you can use, but if you haven't that or some other good feeder you can use the crock-and-plate method.

Fumigating Comb Honey—Beeswax Instead of Honey.

1. How much bisulphide of carbon should I use to fumigate comb honey?

2. How long should the honey be exposed to the fumes of the bisulphide of carbon?

3. What is the best method of producing beeswax? I want beeswax instead of honey. New York.

ANSWERS.—1. I have never had any personal experience with bisulphide of carbon, for since it has come into use I have never had occasion to fumigate. With Italians or a good strain of hybrids you don't have to. It isn't the easiest thing to learn from others the right quantity to use. Root's "A B C" says: "The combs to be treated are placed in a toolbox or small room. A pint or a quart of the liquid, depending on the size of the enclosure, is then placed in an open vessel *above* the combs." Instruction from others has been something like this: "Pile up your combs to be treated 4 or 5 stories high, in hive-bodies. Put on top a saucer containing 3 or 4 tablespoons of bisulphide, and cover closely." Probably it doesn't make much difference if you use too much.

2. Open up in about 24 hours.

3. So far as I have ever learned, those who make a business of producing wax rather than honey have done it by feeding back the honey, thinned, as fast as the bees built combs and stored it. But that was in places very far from market, where the honey would not pay for transportation and wax would. It is not likely you can make it pay in your region.

Shipping Comb Honey — Producing both Comb and Extracted.

1. What size shipping-cases are best to ship honey to a distant market, the 24-section or the 12-section case? If the 12-section size is used, will it sell for a better price, so as to repay for the extra cost in cases?

2. Is it advisable when shipping honey to weigh each case separately, and mark the case weight and honey weight on a label, or otherwise, on each case? or is that not needed?

3. When is the best time to ship comb honey?

4. Do you think it a good plan to work for both comb and extracted honey? That is, to have the weaker colonies produce extracted honey, while the stronger ones are producing comb honey?

5. This year, after having my comb-honey supers stored in the honey-house for about 4 weeks, I examined them and found that wax-moths had been working in nearly every super. Could there have been eggs from wax-moths stored in each super, or do they travel from one to the other?

6. Which is the best way to destroy them? Does fumigating with sulphur hurt the flavor of honey?

We had a good honey crop here this year. Iowa.

ANSWERS.—1. So far as concerns safety in shipping, there is probably little difference; the little there is being in favor of the smaller package. In some markets honey brings more in the larger cases. But I suppose some grocers might not have any preference, where they never sell by the case.

2. If you sell by weight, it is well to have at least the net weight on each case. The tendency seems nowadays toward selling by the case rather than by weight. Canadians call it selling by the dozen. Colorado State rules require that a 24-section case of No. 1 separatored honey shall average 21 pounds net; half-separatored, 22; and unseparatored, 23.

3. Generally about as soon as it is ready. In very cold weather combs are in danger of breaking.

4. That's a matter on which there is room for difference of opinion. Depends upon circumstances. Best for some; not best for others. Your market has something to do with it.

5. There were eggs in each super.

6. Bisulphide of carbon seems the favorite. You would hardly affect the flavor by sulphuring, but too much of it gives the capping a greenish color.

Wintering on Heartsease Honey.

My bees have done well in this part of Southern Kansas this season. There is no trouble in wintering bees here, as they have a flight nearly every week. I expect to move to South-central Iowa this fall. Will my bees winter successfully there on heartsease honey, or would it be better to extract the honey from the broodnest and feed sugar syrup? In 1905, some of my bees died of dysentery wintering on heartsease honey and not being able to take a flight for about 6 weeks on account of the severe weather. Kansas.

ANSWER.—It is possible that heartsease honey was not to blame for the trouble in 1905. Surely thousands of colonies have wintered on it, and it has not had the name of being bad for winter food. My bees wintered well last winter, and I think a good share of their honey was heartsease.

Late Queenless Colony.

I have 4 colonies of bees, and last spring I found one of them very weak and without a queen. I gave it a queen-cell from one of the other colonies, and now they have a fine queen and lots of honey for winter. One of my other colonies has no queen, and I find no queen-cell to transfer to them. If I had I think it would be too late anyway. What is the best thing I can do? The colony that is without a queen has lots of honey. I got 90 pounds from 3 colonies this season. The most I ever had from 3 colonies was 150 pounds. Please let me know what I should do with the colony without a queen this late in the season. Pennsylvania.

ANSWER.—It is just possible that even thus late your colony might rear a queen if you should give it a frame containing very young brood, but a much better way would be to buy a queen for it from some one of the queen-breeders advertising this month, or last month, in the American Bee Journal.

Packing Bees for Wintering—Foul Brood and Supers.

1. How do you pack hives for the winter on the summer stands? Do you use sealed covers or enamel cloth over the top, or quilts under the covers?

2. If a colony having black or foul brood should store honey in the supers, comb or extracted, would it be safe to use the supers after the honey is extracted or disinfected in a solution of carbolic acid and rinsed in clean water the same as the hives, or should they be destroyed? Pennsylvania.

ANSWERS.—1. My colonies are wintered in the cellar. If I were to winter them outdoors, I might try sealed covers and also quilts or cushions, but in either case I should strive to have abundant covering to make the top warm. A plain sealed cover, with nothing over it to keep it warm, would seem to be just the thing for the moisture of the colony to condense upon, and then drops of water would fall down upon the cluster; but if sufficient covering were over to keep the cover warm, there ought to be no such condensation.

2. So good an authority as Wm. McEvoy, the Canadian expert, says there is no need to disinfect hives that have lodged foul brood, so of course supers could be safely used again.

Colony Deserted Queen—Bees and Queen by Express.

1. I introduced an Italian queen into a colony of black bees and they accepted her all right, but the colony had been queenless so long that the bees were all dead but 10 or 15 about 2 weeks after I introduced her. They had plenty of feed, and I guarded them very carefully against robbers. Each morning I found a lot of dead bees in the bottom of

American Bee Journal

the hive. They did not have any disease, but I found a few moth-worms in one of their combs. One afternoon I opened the hive at 1 o'clock and the queen and her few bees were all right. The same day at 4 o'clock I looked in again and the hive was empty. If all the bees left her, would she crawl out of the hive and the chickens eat her, or do you think it is possible that they had all gone in with another colony of bees? She was not in or near the hive, as I looked carefully.

2. When a colony of bees is sent by express, is the queen allowed to go free in among the bees, or is she placed in a cage among them? If she is free among them, would they not ball her. Please tell me just how they are shipped, as I want to buy a colony of Italians in the spring and would like to know before it is time to order them.

A MARYLANDER.

ANSWERS.—1. It is not easy to say for a certainty just what a queen with a few discouraged old bees might do. It is entirely possible that they may have gone in with a neighboring colony, where the queen would be killed. They might have gone in with a queenless colony, where the queen would be spared. If the queen's wings were whole she might have flown away from the bees. Not very likely that chickens ate her.

2. The queen is at liberty among the bees. Of course she belongs with those bees, just as a queen does in any colony or nucleus, and so there is no likelihood that the bees will ball her.

I don't know of anything in particular that you need to know in advance about a colony that is shipped. You will easily see what the fastenings are, and will easily undo them.

Beginning with Bees.

1. I have just started in the bee-business. I bought 6 colonies Aug. 15. Placing empty supers on them a day or two before bringing them home, I was told that they would fill the supers again with the fall flow of nectar. Must I remove the supers as soon as frost comes, or will they work any after frost? I was assured that there was plenty of honey in the hive to keep them through the winter, and that it would be best to remove the supers for the winter months. Our winters here are very open, and we have some very fragrant flowers in February that grow on bushes like the hazel bushes of Missouri, only these are not nut-bearing.

2. I was told that they would not swarm at this season of the year, but for a week past between 4 and 6 p. m., there has been a disturbance around the different hives, and a few flying high in the air. If any swarm went off I did not see them.

3. I do not know anything at all about the business. Will your book be best for me as a beginner, or the "A B C and X Y Z of Bee-Culture?" I am not able to buy both at present.

4. I have been told to keep plenty of salt near by for the bees, and they would use it themselves to kill the moths. I notice when I put salt for them, they begin using it right away, and it soon disappears. Although I was assured that there were no moths in my bees, but they said salt was good for them. I also keep both salt and water, and water without salt, near by for them. ARKANSAS.

ANSWERS.—1. Supers should be removed whenever the bees are done storing. They may stop storing in July, or they may store until well on in September, but are not likely to store after frost. To be sure, they may gather a little almost any time when they can fly, but they'll use it faster than they can gather.

2. It was probably the bees taking a play-spell, just flying for fun and for exercise.

3. If you can not have both, get the "A B C and X Y Z of Bee Culture."

4. I don't believe giving salt has anything to do with the moths.

Comb Honey Seeping Out.

I have been in the bee-business for 25 years, but in all that time I have not had anything happen with my bees or honey that I could not remedy. What the trouble is this year, I cannot comprehend. The sections are sealed and filled nicely, and still the honey seeps out all over the comb, and sections that have weighed a pound have leaked so much that there is hardly any honey in them at all. Some sections are all right on one side, and on the other side all the honey has seeped out. Also, there is something wrong with the colonies. From some the honey is all right, and from others, leaky. This is all spring honey that I refer to. The leaky honey tastes a little queer, and is very thin. ILLINOIS.

ANSWER—I am utterly at a loss to say what is the trouble or to suggest a remedy, and will gladly yield the floor to any one who will help. It may not be a wild guess to say that some special bloom has yielded honey with an unusually strong affinity for water; but what flower? and how much would it help if we knew?

Genuine Gluers—Fine Season.

A queen reached me September 10, and I got her safely introduced. When I opened the hive, about a week ago, I found the entrance to the hive closed up with propolis, all but a few holes for the bees to pass in and out. I tried to cut out that gum, but found that I could do nothing with knife or chisel, so I took a clean hive, and put the bees into that, and then took a key-hole saw and sawed out the entrance. A week later, when I opened the hive I had put them in, I found it closed up again. If they are not the pure Caucasians, then I don't know where to find them. I use the 10-frame Langstroth hive with full-width entrance, and ⅜-inch deep. I don't know how many more times I will have to saw out that entrance.

We have had a fine season for honey. I have taken up to date a little over 4,100 pounds of honey, mostly extracted, from 24 colonies, spring count, and have increased to 41. They are still bringing in honey.

FRED BECHLY.

Searsboro, Iowa, Sept. 13.

Prefer Tobacco to Bee-Literature.

I have been trying to get at least one new subscriber for the American Bee Journal, but have failed in every instance. I asked at least 3 men who spend from $10 to $20 per year for tobacco, but I could not get them to spend 75 cents for something that would inform them. How strange! Ignorance may be bliss, but the less the better. I give away nearly all of my journals after I have read them.

I. M. NEWMAN.

Hewins, Kans., Sept. 3.

Bees Have Done Well.

Bees in this locality which have had tolerably good care have done very well this season so far. They are now working on buckwheat, which is yielding nectar this year.

I had 10 colonies in the spring, which increased to 18. They are mostly Italian, and are in 8 and 10 frame Heddon and Langstroth hives.

I have taken off some 450 pounds of surplus comb honey in 4¼x4¼x1⅞ sections; also 250 pounds of extracted honey. The markets around here are pretty well supplied with honey now I will hold the most of mine a while until there is a better demand. WM. MARTIN.

Highland, Mich., Sept. 1.

Part of Apiary of Walter Goss.

I am sending a photograph of a part of my bee-yard in the apple orchard, taken August 12. The big boy is myself, and the little boy is Hubert Sink, 12 years old, my helper. I have 25 colonies. Fourteen are in Root's 10-frame hives, 3 are in divisible brood-chamber, and the rest are in home-made ones, but are the regular Langstroth dimensions. Most of the hives shown in the picture are home-made. I don't think it pays to make one's own hives when they can be ordered so cheap in the fall.

I contracted the bee-fever when a mere child, helping father with his bees in the old fashioned way with his log-gums and box hives, and at last I became so enthusiastic about bee-keeping that I couldn't rest satisfied until I knew more about the inside workings of the bee-hive. In 1902 I sent for a bee-book and bee-paper, and I now take care of the bees in an intelligent, up-to-date way. I have also been reading the American Bee Journal since October, 1902, and couldn't get along without it.

This has been my best year with bees. They commenced gathering honey from white clover May 20, and never lost a single day till the very last days of June. I have harvested and sold nearly 600 pounds of chunk honey. It was about all engaged before it was off the hives. I have never had enough to supply

APIARY OF WALTER GOSS, OF GOSPORT, IND.

American Bee Journal

the home demand. The bees haven't gathered any surplus within the last 6 weeks—only for their own needs—and I think the fall flow will be light, although we can't tell yet.

I winter my bees on the summer stands packed in forest leaves, and they always come through with a strong force in the spring.

I want to write more about the honey-plants, the honey-flow, and the weather conditions in this vicinity, some time in the future.

WALTER GOSS.

Gosport, Ind., Aug. 22.

Honey Crop a Failure.

The honey crop is a failure here. I have not taken honey enough yet to pay for the feed given the bees last spring.

Leon, Iowa, August 25. EDWIN BEVINS.

Poor Honey Season.

We have had a very poor honey season here. It was too wet during May and June, and too dry during July.

(Dr.) J. F. VIGOR.

Pomona, Kans., Sept. 8.

Apiary of C. A. Mangus.

My apiary is located north of the city of Altoona. It is in the best location in the city limits. It numbers 27 colonies, all 3 and 5 banded Italians. C. A. MANGUS.

Altoona, Pa.

C. A. MANGUS AND APIARY, ALTOONA, PA.

No Fall Honey.

I received the September number of the Bee Journal. I am a reader, or was, of the American Bee-Keeper. I regret to see it go out of print, but I welcome the American Bee Journal.

There is no fall honey-flow here. Our last supers are empty. July is our honey-month. White and sweet clover are our stand-by flowers, about 50 pounds per normal colonies of surplus honey. This alludes to comb honey. Extracted would go higher. I produce only comb honey. Brood-chambers are amply supplied.

It gives me much pleasure to look down the columns of the American Bee Journal and see bee-keeping put in practise, but I have this to say about those little stingers—they will never make friends with you.

D. HARTMAN.

Williamsburg, Kans., Sept. 20.

A Fair Crop of Honey.

We have harvested a fair crop of honey. This would have been a banner year for us, but the drouth, and also several light frosts in August, cut off the buckwheat flow, leaving us with no fall honey. But bees are going into winter quarters in fine condition.

GEO. H. REA.

Reedsville, Pa., Sept. 19.

Hard to Start Sweet Clover.

I have been trying to get a start of sweet clover for 3 years, and had a good start of the white variety around my bee-yard, but the dry weather has killed it about all out. It is very dry here, so much so that the golden-rod is all drying up. The bees are not working on it as there is no nectar in it, I suppose. A few bees are doing little or nothing for me this year as yet. I have every sort of hive, patent, movable frame, and Italian bees. All are very strong colonies. R. B. PERRY.

Greenfield, Tenn., Sept. 20.

Honey Crop a Failure.

The honey crop here has been almost a failure. There was a little clover, no basswood and no buckwheat. Early promises did not fulfill. G. M. DOOLITTLE.

Borodino, N. Y., Sept. 8.

A Beginner's Report.

I am just 16 years old. I started in the bee-business in February last with 2 colonies and now have 6, 3 of which are doing fine work in the supers. I have 10-frame Danzenbaker hives. The only objection to the Danzenbaker hive is the bottom-board. I prefer a solid board instead of so many pieces, as they warp so badly.

Today we had the first rain in nine weeks. The heartsease and smartweed honey-flow has been on for 2 weeks, and it generally lasts from 6 weeks to 2 months.

I like the American Bee Journal.

E. CARLYLE GOLDSMITH.

Pond Creek, Okla., Sept. 4.

Pretty Good Year for Bees.

This year has been pretty good here for bees. I had one colony that stored 164 pounds of comb honey. But I had so many poor queens that didn't do anything at all.

J. E. POMEROY.

Boring, Oreg., Sept. 1.

Fair Season for Bees.

My bees so far have given about 50 pounds of comb honey to the colony. I get 20 cents in the home market. I am buying extracted honey to supply the local trade.

W. SAPPENFIELD.

Rockville, Ind., Sept. 5.

Apiarian Pictures

We would be glad to have those who can do so, send us pictures of bee-yards, or of anything else that would be of interest along the bee-keeping line.

American Bee Journal Now 75c a Year.

On September 1, 1907, we placed the subscription price of the American Bee Journal at 50 cents a year. It was an experiment for us. We have given it a year's trial and are convinced that the kind of a journal that we are getting up each month can not be profitably maintained at so low a price as 50 cents. Besides, it is worth more than that if it is worth anything at all. No bee-paper has ever been successful at 50 cents a year. We have been giving every month more valuable bee-literature, we believe, than was ever given by any other monthly apiarian publication at even one dollar a year.

Bee-keepers are not cheap folks. They believe in the "live and let live" principle. There has been a fair crop of honey in most localities this year, and it will sell at a fair price if properly marketed. The cost of everything that goes into the making of the American Bee Journal is now higher than for years, and its 32 pages each month fairly teem with helpful, interesting information—so they tell us who ought to know. It costs a good deal to secure it and put it up in such attractive shape. The price should be one dollar a year, but beginning with September 1, 1908, we put it at 75 cents a year (3 years for $2.00, or 5 years for $3.00) in the United States and its possessions, also Mexico and Cuba (except in Chicago, where the postoffice department compels us to add 2 cents per copy for postage, making it $1.00 per year). To Canada it will be 85 cents a year; to other foreign countries, such as England, Australia, etc., it will be $1.00 a year. To South Africa and other countries not in the Universal Postal Union, it will be $1.25 a year.

We believe that every one of our readers who appreciates a good bee-paper, will commend us for making the change from 50 cents to 75 cents—which on individual subscriptions is only "a quarter" a year more, or about 2 cents a month more—that's all.

We wish to thank all our readers for the interest they are taking in the American Bee Journal, and especially for securing new subscriptions. On another page we make some liberal offers for the work of getting new readers We hope it will be kept up, and that we may have a large increase in our subscription list.

And now, wishing all our readers success in their undertakings, we are,

Faithfully yours,

GEORGE W. YORK & CO

Chicago, Ill., Sept. 1, 1908.

Connecticut Convention.

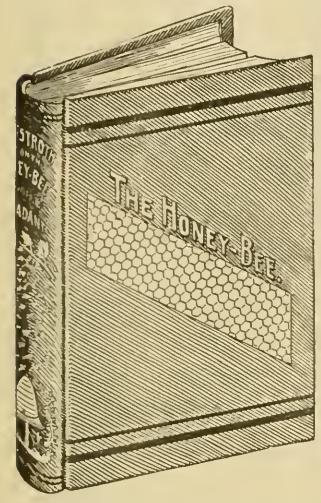
The 17th fall convention of the Connecticut Bee-Keepers' Association will be held Friday, October 16, 1908, in Room 50, State Capitol, Hartford, beginning at 10:30 a. m. To all interested a cordial invitation to meet with us is extended. Matters of importance to progressive bee-keepers will be discussed by experts. JAMES A. SMITH, *Sec.*

Hartford, Conn.

Langstroth on the Honey-Bee

Revised by Dadant—Latest Edition

This is one of the standard books on bee-culture, and ought to be in the library of every bee-keeper. It is bound substantially in cloth and contains nearly 600 pages, being revised by that large, practical bee-keeper, so well-known to all the readers of the American Bee Journal—Mr. C. P. Dadant. Each subject is clearly and thoroughly explained,



so that by following the instructions of this book one cannot fail to be wonderfully helped on the way to success with bees.

The book we mail for $1.20, or club it with the American Bee Journal for one year—both for $1.70 or, we will mail it as a premium for sending us **FIVE NEW** subscribers to the Bee Journal for one year, with $3.75.

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Pennsylvania Convention.

The incomplete program for our next convention, to be held at York, Pa., Nov. 12 and 13, 1908, is as follows:

Thursday, 1:30 p. m., leading paper by Dr. E. F. Phillips.

"A General Discussion of Apiculture in the United States," Thursday evening.

Friday morning—Address by Prof. H. A. Surface, on "Hay and Honey Plants."

Friday afternoon—Probably an address by Dr. E. F. Phillips, on "The Treatment of Bee-Diseases."

A. F. Satterthwait.

Harrisburg, Pa.

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A Dishonest Queen-Breeder

Mr. Leslie C. Stewart sent a $1.80 order for queens to Wm. McKnight, of Elamville, Ala., early in the season. But he never received the queens, nor the return of his money. If others of our subscribers have been treated in a similar way by McKnight, who advertised queens for sale through the American Bee Journal, we should like to know it. We have no use for fraudulent or dishonest advertisers, and whenever we have been imposed upon we want to find it out, so as to give them a free advertisement like we are here giving McKnight.

An Invitation to Readers

As the time of longer evenings is again arriving, we would like to invite our readers to send in their reports of the season of 1908 with the bees.

It may be, also, that some have been trying experiments, or have had some things to develop that would be of interest to all. If so, we would like to have such write out their experiences for publication, and send them in. No doubt what you have read in the American Bee Journal has been a great help to you, so why not *you* add your mite to the general fund of information about bees?

Bees Visiting Different Flowers on Same Trip

It is generally understood that when a bee goes afield it does not visit promiscuously different kinds of flowers, but if it begins on clover it sticks to clover throughout its trip, and similarly of other flowers. The question having been raised in the British Bee Journal whether there might be exceptions to this rule, Dr. C. C. Miller wrote that journal as follows:

"It so happens that I can help just a little to settle the question raised by your correspondent, S. Jordan. Years ago I was sitting idly watching a bee at work on the flowers in front of the house, when I was greatly astonished to see it fly from one flower to another of an entirely different kind. After working a short time on this, it returned to the first kind, and later made the change again. At this distance in time I can give no particulars as to circumstances. That is the only observation of the kind made by me in the course of 47 years; but it is quite possible that to a limited extent the same thing is going on all the while.

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2000 lbs. Fancy Extracted Honey, clover and a little basswood mixed; thoroughly ripened on the hives, and is thick, rich and delicate in flavor. Put up in new 60-lb. cans, 2 in one case, cases iron-bound. Price, 9 cents per lb. Sample 10 cents.

JOS. HANKE, - Port Washington, Wis.

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Handsomest farm paper published, interesting and helpful, even if you have only a few trees or plants. New fruits are finest ever introduced and would cost $1.50 at nursery. Both perfectly hardy. Delicious sold high as $6 bushel. Grapes are just grand. One of the Three handsome FREE trial copies will be
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Mention Bee Journal when writing.

Honey as a Health-Food.—This is a 16-page honey-pamphlet intended to help increase the demand for honey. The first part of it contains a short article on "Honey as Food," written by Dr. C. C. Miller. It tells where to keep honey, how to liquefy it, etc. The last part is devoted to "Honey-Cooking Recipes" and "Remedies Using Honey." It should be widely circulated by those selling honey. The more the people are educated on the value and uses of honey, the more honey they will buy.

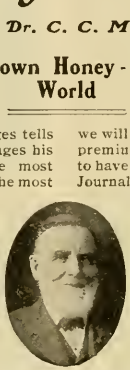
Prices, prepaid—Sample copy for a 2-cent stamp; 50 copies for 70 cents; 100 for $1.25; 250 for $2.25; 500 for $4.00; or 1000 for $7.50. Your business card printed *free* at the bottom of front page on all orders for 100 or more copies. Send all orders to the office of the American Bee Journal.

"Forty Years Among the Bees"

By Dr. C. C. Miller

One of the Best-Known Honey-Producers in all the World

THIS book of over 340 pages tells just how Dr. Miller manages his apiaries to produce the most honey, which, in turn, brings the most money. Dr. Miller has been "at it" some 45 years, and so is competent to tell others the best way to be successful with bees. In 1903 his crop of comb honey was over 18,000 pounds, and he is not located in the best honey-producing part of the United States, either—Northwestern Illinois.



The book is bound in substantial cloth, gold-lettered, and is sent postpaid for only $1.00; or with the American Bee Journal one year for $1.50. (Or send us 4 **new** subscriptions to the Bee Journal—with $3.00—and we will mail you the book **free** as a premium.) Every bee-keeper ought to have both the book and the Bee Journal, if not already possessors of them.

As Dr. Miller gets a royalty on his book—so many cents on each copy sold—every bee-keeper who buys it is thus helping a little to repay him for his effort to lead others to success through his writings on bee-culture.

As we have a good stock of these books on hand, **we can fill all orders by return mail.** This is the time of year to read up on bee-keeping. Better send us your order at once for Dr. Miller's book, and study it carefully so as to make the most of the bee-season. Address,

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Select Untested	1.25	6.50	12.00	1.00	5.00	9.00
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Straight 5-band	$10.00
Select Golden	4.00
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Untested Caucasian, $1.25 each; 6 for $7.00; 12 for $12.00.

Nuclei, without queens: 1-frame, $2.50; 2-frame $3.50; 3-frame $4.50. 1 Full Colony, 8-frame $9.00.

Select the queen wanted and add to the above prices.

NOTE

I have transferred to my son, Benj. G. Davis, my straight 5-band and Golden department, and in order to receive the promptest attention, all correspondence for these should be sent direct to him. He practically grew up in my queen yards, rears queens by my methods, has had charge of this department for years, and understands his business. No bee-disease.

JOHN M. DAVIS, Spring Hill, TENNESSEE, U. S. A.

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American Bee Journal

We will Buy and Sell

HONEY

of the different grades and kinds. If you have any to dispose of, or if you intend to buy, correspond with us.

We are always in the market for

Beeswax

at highest market prices.

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MARSHFIELD BEE-GOODS

FRIEND BEE-KEEPER—We are prepared to fill your orders for **Sections.** A large stock on hand. Also a **Full Line of Bee-Supplies.** **We make prompt shipments.**

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Gregory & Son, Ottumwa.
KANSAS—S. C. Walker & Son, Smith Center.
MICHIGAN—Lengst & Koenig, 127 South 13th St., Saginaw, E. S.
S. D. Buell, Union City.
NEBRASKA—Collier Bee-Supply Co., Fairbury.
CANADA—N. H. Smith, Tilbury, Ont.
ARIZONA—H. W. Ryder, Phœnix.
MINNESOTA—Northwestern Bee-Supply Co., Harmony.
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Fob 5 inches long, shield 1¼ inches square

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BRYAN OR TAFT

Handsomest Campaign Badge you have ever seen. You may have it FREE with our compliments. This fob is made of a fine grade of seal grained Russia leather, nickeled buckle, beautiful mother-of-pearl shield, containing a photo of your favorite candidate, either Bryan or Taft. It is guaranteed to be just as we describe it and you will be proud to wear it. We are giving away these handsome fobs to get acquainted with you and to get you acquainted with our splendid and instructive farm paper, "FARM AND STOCK," an up-to-date magazine devoted mainly to corn and live stock. The Watch Fob and a three months' trial subscription given you absolutely free on receipt of 10 cents in coin or stamps to pay for mailing. We will also send you our liberal proposition whereby you can secure other handsome premiums free by giving away several of these fobs to your neighbors. You are sure to be delighted with both fob and paper, so send 10c at once while they last 10

FARM AND STOCK
Box 310, St. Joseph, Missouri

HONEY

For sale. Amber, Buckwheat and No. 2 White Comb, at $2.75 per case of 24 sections; in 25-case lots 5 percent discount. Nice, thick, well-ripened light amber honey, being clover at 5 cents per pound, 2 60-pound cans to case. Bees and Queens in season.

Quirin-The-Queen-Breeder,
Bellevue, Ohio

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QUEENS Improved red-clover Italians. Select untested, 75c each. Safe arrival guaranteed. 8A3t

E. D. SIPPLE, Williamstown, Ky.

FOR SALE 1908 crop of White Clover Honey, all extracted from capped combs. A strictly fancy table honey that will please. Price, 10 cts. Sample free. Put up in 60-lb. cans either square or round. WARREN H. WINCH, Hopkinton, Iowa

Mention Bee Journal when writing.

HAND-MADE SMOKERS

Extracts from Catalogs—1907:

Chas. Dadant & Son, Hamilton, Ill.—This is the Smoker we recommend above all others.

G. B. Lewis Co., Watertown, Wis.—We have sold these Smokers for a good many years and never received a single complaint.

A. I. Root Co., Medina, Ohio.—The cone fits inside of the cup so that the liquid creosote runs down inside of the smoker.

All Bingham Smokers are stamped on the tin, "Patented 1878, 1892, and 1903," and have all the new improvements.

Smoke Engine—largest smoker made	$1.50—4	inch stove
Doctor—cheapest made to use	1.10—3½	"
Conqueror—right for most apiaries	1.00—3	"
Large—lasts longer than any other	.90—2½	"
Little Wonder—as its name implies	.65—2	"

The above prices deliver Smoker at your post-office free. We send circular if requested.

Original Bingham & Hetherington Uncapping-Knife.

T. F. BINGHAM, Farwell, Mich

Patented May 20, 1879. BEST ON EARTH.

Brother Bee-Man

How about increase this fall? I have the Queens, and can ship **promptly, Italians, Carniolans, Banats,** and **Goldens**—the best of any race that money can buy. If you try a Banat this year you will want more next year. My Carniolans and Banats won First Prize last year at the International Fair at San Antonio. Untested Queens, 75 cts. each; $8.00 per doz. Choice Tested Queens, $1.25 each; $12.00 per doz. Choice Breeders, $3.00 each. **Circular free.**

GRANT ANDERSON, Sabinal, Texas

Headquarters National Bee-Keepers' Ass'n, Oct. 13, 14, 15, 1908.

The WAYNE HOTEL and PAVILION,

DETROIT, MICHIGAN

Only First Class Hotel in the City overlooking the Beautiful Detroit River.

American and European Plan. Popular Rates.

J. R. HAYES, Propr.

5A6t

American Bee Journal

Now Ready

The 97th edition of our catalog is now ready. If you have not received a copy and are ready to place an order for any supplies write for a copy. Our mailing list has over 400,000 names, and time is required to get the entire edition mailed. We explain this so any one may understand why a catalog may not reach him early.

The A B C of Bee Culture

When we announced the completion of the new edition late in 1907 there was a good deal of satisfaction to notice the big bunch of orders on hand, although we did regret the unavoidable delay in getting the books to some customers who had waited patiently for months. Over two thousand copies of this edition have already been sent out. We believe all urgent orders have been filled. We felt that the change of price to $1.50 postpaid might cause a little slackening in the demand. Not so, however, for in all our experience the orders never came faster.

We have also of the English edition a half leather at $2.00 and full leather at $2.50, postpaid.

GERMAN EDITION, A B C der Bienenzucht in paper covers, $2.00. Cloth-bound at $2.50, postpaid, to any country.

FRENCH EDITION, A B C de L'Apiculture, cloth-bound, at $2.00, postpaid, to any country.

Gleanings in Bee Culture

If you haven't seen a late copy of Gleanings you can't tell from any brief description how really magnificent it is. There are many valuable departments, and our subscribers just at this season of the year are telling how much they appreciate the paper.

Each issue is very fully illustrated. The covers are done by the finest engravers in Chicago, and our writers are the best in the land. Besides dozens of writers of prominence whose names we can't even mention for lack of space, we have such men as Dr. E. F. Phillips, U. S. Dept. of Agriculture; Dr. Edward F. Bigelow, Associate Editor St. Nicholas; F. Dundas Todd, former Editor Photo-Beacon; Allen Latham, Connecticut, etc.

A trial of six months (12 numbers) costs 25c. If in addition to your own subscription you secure others for six months keep 10c on each one for your trouble. A liberal cash commission to those who do canvassing for us.

Gasoline Engines and Power Honey Extractors

For large apiaries, or where the honey comes with a rush and labor is scarce, you should investigate our power machines. A circular of these will be sent on request.

THE A. I. ROOT COMPANY, MEDINA, OHIO

Bee-Supplies

If you want Bee-Supplies or Berry Boxes quick, send to McCarty. Large Stock. Beeswax wanted. You can use any first-class catalog to order from. 6Atf

W. J. McCARTY, Emmetsburg, Iowa.

BEE-SUPPLIES.

40-page catalog free. Brimful of the latest make of hives, etc. Our supplies will please you in every way. Prices are right. We can make prompt shipments as we carry a full line of A. I. Root Co.'s supplies in stock. Don't fail to write us if you are in need of supplies. 8Atf

JOHN NEBEL & SON SUPPLY CO., High Hill, Montg. Co., Mo.

Mention Bee Journal when writing.

What They Say

"Your honey can't be beat."—E. D. TAYLOR, N. A., Mich.

"Your honey certainly has the finest flavor of any I ever tasted."—MRS. Z. SCHAAD, N. R., Mich.

"Enclosed find check for $36, paying for last three cases of honey. I hope you won't dispose of all this honey at once, as I may want more later on. Had I known of it sooner, I would not have ordered some that is now coming and which will deplete my bank account to pay for, as I would rather have yours."—E. W. PEIRCE, Zanesville, Ohio.

If you want some honey that will make you smile every time you taste it—honey you will be proud to set before your friends, or honey for your fancy bottling trade—send your order to **Jay North.** He has the genuine article; it is put up in new 60-lb. cans at 8½c per pound. Sample free.

JAY NORTH, North Adams, Mich.

REASONS FOR THE PRICE OF MY RASPBERRY HONEY

I ask 10 cents a pound for my raspberry honey. This is slightly above the market price, but there are reasons.

In the first place, very little raspberry honey is produced. It is a novelty—something out of the ordinary—like orange-blossom honey, for instance.

In addition, it is of very superior quality; so much so that it was awarded the gold medal, in competition with other honeys, at the Jamestown Exposition. It has a flavor of the wild, red raspberry of the woods.

Another most important reason why I should get a good price for my honey, is the manner in which it is produced. It is left on the hives for weeks after it is sealed over, and thus acquires that finish, that smooth, oily richness, that thick, rich deliciousness that can be obtained in no other way.

It costs more to produce such honey, there is not so much of it, and it is worth more than the ordinary honey; just as the big Northern Spy apples, streaked with crimson and filled with juicy spiciness, are worth more than ordinary fruit.

As a finishing touch, the honey is put up in bright, new, 60-pound cans, securely boxed, and the boxes bound with iron so that they will bear shipment; in fact, I will guarantee safe arrival in perfect condition.

For a single 60-pound can the price is $6.25; for two cans in a case (120 pounds) the price is $12.00 a case, regardless of the number of cases that are taken.

If you are not acquainted with this honey, send me 10 cents and I'll mail you a generous sample, and the 10c may apply on the first order that you send.

W. Z. HUTCHINSON, Flint, Mich

BARNES' Foot-Power Machinery

Read what J. I. PARENT, of Chariton, N. Y., says: "We cut with one of your Combined Machines, last winter, 50 chaff hives with 7-in. cap, 100 honey-racks, 500 brood-frames, 2,000 honey boxes, and a great deal of other work. This winter we have double the amount of bee-hives, etc., to make, and we expect to do it with this Saw. It will do all you say it will." Catalog and price-list free.

Address, W. F. & JOHN BARNES, 995 Ruby St., Rockford, Ill.

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Engravings For Sale

We are accumulating quite a stock of engravings that have been used in the American Bee Journal. No doubt many of them could be used again by bee-keepers in their local newspapers, on their stationery, or in other ways. Also, if we can sell some of them it would help us to pay for others that we are constantly having made and using in our columns. If there is any of our engravings that any one would like to have, just let us know and we will quote a very low price, postpaid. Address,

GEORGE W. YORK & CO.
CHICAGO, ILL

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American Bee Journal

For Over Twenty-Five Years

our make of goods have been acknowledged to be in the lead as regards **Workmanship** and **Material.**

Our **Air-Spaced Hive** is a most excellent winter hive, and convenient for summer management as the single-walled. Same inside dimensions as regular Dovetailed Hives; all inside material interchangeable with Dovetailed Hives.

We manufacture a full line of **Bee-Keepers' Supplies.**

Fall and winter discounts:—Sept., 7 per ct.; Oct., 6 per ct.; Nov., 5 per ct.; Dec., 4 per ct.; Jan., 3 per ct.; Feb., 2 per ct.; Mar., 1 per ct. Catalog free.

W. T. FALCONER MFG., CO.
Jamestown, N. Y.

Mention Bee Journal when writing.

Headquarters for Bee-Supplies

ROOT'S GOODS

At Root's Factory Prices

Honey Wanted

Fancy white clover Extracted. State how it is put up, and the price expected, delivered Cincinnati.

C. H. W. WEBER CINCINNATI ... OHIO ...

Office and Salesrooms, 2146-48 Central Ave. Warehouses, Freeman and Central Aves.

Honey and Beeswax

CHICAGO, Sept. 22.—Usually at this time we have quite a demand for honey, but such is not the fact at this writing. The yield of honey being good in this neighborhood, people are stocking their friends and acquaintances and their local stores with honey, and they are also visiting Chicago and bringing honey with them, which they are placing with the retailers, because of their inability to sell it to dealers. This condition has a tendency to demoralize prices, and we now quote A No. 1 to fancy comb at 13 to 14c, with other grades from 1 to 3c per pound less. White extracted 7 to 8c, with some of the Western grades at 6 1-2c; amber grades 6c, with the dark one-half cent less. Beeswax is steady and in good demand at 30c.
R. A. BURNETT & Co.

INDIANAPOLIS, Sept. 22.—There seems to be a good demand for best grades of both comb and extracted honey. Prices are still irregular, but producers are offering fancy white comb at 12½c; No. 1 white at 12c; and best extracted, in 5-gallon cans, at 7c. Almost no demand for amber grades. Beeswax is steady at 28c spot cash.
WALTER S. POUDER.

LOS ANGELES, Sept. 21.—Honey quotations are as follows: Light amber, 5c; white, 5 1-2c; water-white, 6 1-2c. Beeswax, 23c. In many locations the crop has been a failure. No white honey to be had at any price.
H. J. MERCER.

DENVER, Sept. 25.—Demand for comb honey in carload lots is fairly good, but local trade on same is light, which is mainly due to the large amount of fresh fruit in the market at present. We are quoting our local market as follows: No. 1 white, per case of 24 sections, $3.15; No 1 light amber, $3.00; No. 2, $2.85. Strained and amber extracted honey, 6¾ to 7¾c; light amber extracted 7 1-2 to 8 1-2c; white alfalfa, 8 1-2c. We pay 24c per pound for clean yellow beeswax delivered here.
THE COLO. HONEY PRODUCERS' ASS'N.

KANSAS CITY, Mo., Sept. 23.—The best comb honey in 24-section cases has been selling at $3.25 per case right along, but with several cars of Western stock due this week we look for it to go to $3.00 per case, or around that figure; amber will probably move at $2.75. Best extracted is bringing 8c.
C. C. CLEMONS & Co.

CINCINNATI, Sept. 22.—The demand for honey has improved considerably, but no high prices have as yet been obtained. We quote: No. 1 white comb honey at 14c; off grades are not wanted at any price. White clover extracted honey sells at 8 to 8 1-2c; amber in barrels at 5 1-2 to 6c. Beeswax is selling slowly at 31c.
C. H. W. WEBER.

PHILADELPHIA, Sept. 21.—The Philadelphia market is well supplied with local honey, fall crop having been gathered at this time. It is one of the largest we have had for years. Outside of the Eastern States later reports show the crop is much below the first reports. This condition makes our market very unsettled. We quote: Fancy comb honey, 15 to 16c; No. 1, 14 to 15c; amber, 12 to 13c. Extracted, white, 7 to 8c; amber, 6 to 7c. Beeswax, 28c.
WM. A. SELSER.

ZANESVILLE, OHIO, Sept. 22.—The honey market is practically unchanged since last report. While there is little demand for extracted, comb is moving as rapidly as could be expected at this season of the year, especially in view of the general depression. Producers seem to be holding for higher prices than the condition of the market warrants. Strictly No. 1 to fancy white comb should bring about 13 to 14c on arrival, the wholesale prices being arbitrary as yet. Good yellow beeswax is worth 29c first hand.
EDMUND W. PEIRCE.

NEW YORK, Sept. 21.—Receipts of comb honey are now quite heavy from New York State and Pennsylvania mainly. Demand is fairly good, especially for No. 1 and fancy white, also for fancy buckwheat. Lower grades not in as good demand. We quote fancy white, 15c; No. 1 from 13 to 14c; No. 2 at 12c, and dark from 10 to 11c. The demand for extracted is improving, especially for Californian, which on account of the short crop is ruling rather high in price. We quote California white sage at 9c; light amber at 8c; amber at 7c; white clover, 8 to 8 1-2c; light amber, 7 to 7 1-2c; and dark, 6 1-2c. Very little doing in beeswax; plenty of supply and market easy at 28 to 29c.
HILDRETH & SEGELKEN.

ITALIAN BEES AND QUEENS, SUPPLIES A. I. Root's Standard Goods. Ask for Circulars.
ALISO APIARY, El Toro, Orange Co., Calif.

"The Honey-Money Stories."

This is a 64-page-and-cover booklet, 5¾x8½ inches in size, printed on enameled paper. The cover has a picture of a section of comb honey, 3½ inches square, the comb being in gold-bronze, which gives it a very attractive appearance. Then on the gold-bronze comb are printed these words: "From Honey to Health, and from Health to Money."

It contains a variety of short, bright stories interspersed with facts and interesting items about honey and its use. The manufactured comb honey misrepresentation is contradicted in two items, each occupying a full page, but in different parts of the booklet. It has in all 31 halftone illustrations, nearly all of them being of apiaries or apiarian scenes. It also contains 3 bee-songs, namely, "The Hum of the Bees in the Apple-Tree Bloom," "Buckwheat Cakes and Honey," and "The Bee-Keeper's Lullaby." The songs alone ought to be worth more than the price of the booklet.

It should be placed in the hands of everybody not familiar with the food-value of honey, for its main object is to interest people in honey as a daily table article. The stories and items are all so short and helpful, and the pictures so beautiful, that it likely will be kept by any one who is so fortunate as to get a copy of it. Its postpaid price is only 25 cents, but the health-value of its contents would run up into dollars.

We believe it would be a great help to create a more general demand for honey. Its retail price is 25 cents, but we will mail a single copy *as a sample* for only 10 cents; 5 copies for 75 cents; or 10 copies for $1.25. With the American Bee Journal one year—both for 60 cents. Send all orders to George W. York & Co., 118 W. Jackson, Chicago, Ill.

Land For Sale

at $15 to $40 an acre, in the Uvalde Honey-Belt, by The Asherton Land & Townsite Co.
E. A. Armstrong, Agt., Carrizo Springs, Tex.

5000 Lbs. Clover and Basswood Honey—nice, well-ripened Honey—in 5-gal., round, hail-handle cans, $5.50 per can here. Sample free.
Mathilde Candler, Cassville, Wis. 10A6t

FOR SALE A fancy article of Extracted Basswood Honey, left on the hives 5 weeks after harvest. 1 case of 2 5-gal. cans, $9.60.
Gustave Gross, Lake Mills, Wis.

HONEY

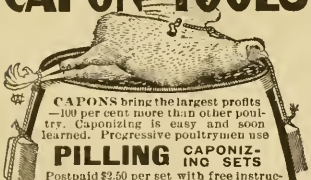
We have on hand a fine lot of **New Extracted White Clover Honey** which is excellent, and which we offer at the following prices:

Barrels (about 550 lbs. each) - -	8c per pound.
Ten 60-pound cans or more, - -	8½c "
Two 60-pound cans or more, - -	9c "
One 60-pound can, - - - - -	10c "
Six 10-pound cans or more, - - -	$1.15 each.
Twelve 5-pound cans or more, - - -	60c "

After September 20th we can furnish **Amber Fall Honey** at the same prices as above. **Sample Free.**

DADANT & SONS, Hamilton, Illinois

CAPON TOOLS



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Postpaid $2.50 per set with free instructions. The convenient, durable, ready-for-use kind. Best material. We also make *Poultry Marker 25c, Cape Warm Extractor 25c French Killing Knife 50c. Capon Book Free.*

G. P. Pilling & Son, Arch St., Philadelphia, Pa

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HONEY AND BEESWAX

When consigning, buying, or selling, consult

R. A. BURNETT & CO.

199 South Water St. Chicago, Ill

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WANTED:—We are in the market for No. 1 White Extracted Honey in any quantity. Correspondence solicited. State kind, quantity and price asked.

We also have for sale 60-pound Honey Cans, 2 cans in case. Both cans and cases in A1 condition, at 30c per case. 8A3t

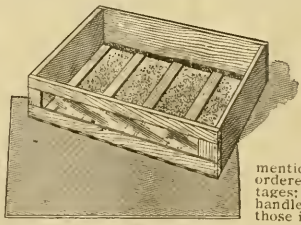
Michigan White Clover Honey Co.

31-33 Griswold St., Detroit, Mich.

Mention Bee Journal when writing.

Getting New Subscribers

This should be a good time to get new subscribers for the American Bee Journal. On another page we offer a number of premiums for such work. We hope that as many of our present readers as possible will help us to increase our subscription list. The more intelligent bee-keepers are, the better it will be for all interested in the business. And much of that intelligence is secured by reading. We will be pleased to send free sample copies on request. Shall we not be favored with a large increase of new subscriptions during the next 2 or 3 months?

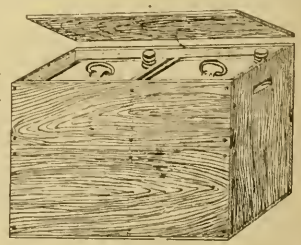


Shipping-Cases

For any number or size of Sections desired. These cases are made of fine white basswood and the workmanship is first class. Owing to the shortage of the honey crop last year, we have a good stock on hand and can make immediate shipment.

Twelve-inch case with follower to hold 24, or 8-inch case with follower to hold 12 bee-way sections, shipped when no size is mentioned. All cases single-tier unless otherwise ordered. The double-tier case has many advantages: lighter, stronger, shows more sections, is handled and stored easier. Further particulars to those interested.

Honey-Packages in Tin



Standard packages for storing and shipping extracted honey. Less chance for leakage or taint from wood; being square they economize on space. Five-gallon cans boxed two or one in a box, gallon cans 10, and half-gallon cans 12 to the box. Five, one and half-gallon cans not boxed if desired. Prices on application for any quantity.

Place your order for the number of Cases and Honey Packages wanted, and we will guarantee prices and prompt shipment.

Minnesota Bee Supply Company

152 Nicollet Island, Minneapolis, Minn.

48th Year
No. 11

November, 1908

75c. a Year
10c. a Copy

AMERICAN BEE JOURNAL

Mass Agl College jun12
Library Amherst, Mass

Apiary of W. H. Rickstrew.—See page 330.

Apiary of M. M. Baldridge.—See page 330.

American Bee Journal

THE AMERICAN BEE JOURNAL

PUBLISHED MONTHLY BY

GEORGE W. YORK & COMPANY

118 W. Jackson Blvd., Chicago, Ill.

IMPORTANT NOTICE.

THE SUBSCRIPTION PRICE of this Journal is 75 cents a year, in the United States of America, (except Chicago, where it is $1.00), and Mexico; in Canada 85 cents; and in all other countries in the Postal Union, 25 cents a year extra for postage. Sample copy free.

THE WRAPPER-LABEL DATE indicates the end of the month to which your subscription is paid. For instance, "dec08" on your label shows that it is paid to the end of December, 1908.

SUBSCRIPTION RECEIPTS.—We do not send a receipt for money sent us to pay subscription, but change the date on your wrapper-label, which shows that the money has been received and credited.

Advertising Rate, per Agate Line, 15c.

14 lines make one inch.

Nothing less than 4 lines accepted.

DISCOUNTS:

3 times 14c a line 9 times 11c a line
6 " 12c " " 12 " (1 yr.) 10c a line

Reading Notices, 25 cents, count line.

Goes to press the 6th of each month.

National Bee-Keepers' Association

Objects of the Association.

1st.—To promote the interests of its members.

2d.—To protect and defend its members in their lawful rights.

3d.—To enforce laws against the adulteration of honey.

Annual Membership Dues, $1.00.

General Manager and Treasurer—
N. E. FRANCE, Platteville, Wis.

☞ If more convenient, Dues may be sent to the publishers of the American Bee Journal.

"Songs of Beedom"

This is a pamphlet, 6x9 inches, containing 10 songs (words and music) written specially for bee-keepers, by Hon. Eugene Secor, Dr. C. C. Miller, and others. They are arranged for either organ or piano. The list includes the following: "Bee-Keepers' Reunion Song;" "The Bee-Keeper's Lullaby;" "The Hum of the Bees in the Apple-Bloom;" "The Humming of the Bees;" "Buckwheat Cakes and Honey;" "Dot Happy Bee-Man;" "Bee-Keepers' Convention Song;" "The Busy, Buzzing Bees:" "Spring-Time Joys;" and "Convention Song." The pamphlet is mailed for 25 cents, or sent with the American Bee Journal one year—both for only 90 cents. Send all orders to the American Bee Journal, 118 W. Jackson, Chicago, Ill.

Western Bee-Keepers We Will Show You how to save money. Send for our new catalog of the best Bee-ware made.

THE COLORADO HONEY-PRODUCERS' ASS'N, Denver, Colo.

Convention Photo

The Detroit convention of the National Bee-Keepers' Association, in October, was equaled in numbers only twice—at the World's Fair and at the Los Angeles conventions. There were probably over 250 in attendance; at least, a group containing 238 members was photographed, and it is never possible to choose a time when every member is present. I employed a local photographer who is an expert in taking groups of this kind. He makes a specialty of this class of work, and has all of the necessary paraphernalia, including an 18x22 camera and set of seats like those used in a circus tent. These seats are loaded upon a dray, hauled to the spot, and set up, thus allowing of the posing of the members in tiers, one above the other. I selected the location and the time of the day when the light would be the best, and the result is a magnificent photograph of a convention group such as has never been equaled, and probably will never be even approached. There was a combination of circumstances: First, the gathering together of the leading bee-keepers; then the seats upon which to group them in a mass so that the camera could be set up close to them; then the camera of large size and a man who knew how to use it; and, last, but not least, the proper lighting conditions. The artist who took the group told me that he had taken probably 500 groups of this kind, but never one that was more perfect than this one, in *every respect*—not a person moved—evtry face is as bright, sharp and clear as though taken in a gallery. Then the large size of the camera allowed the faces to be made of good size. I paid the photographer $25.00 to make the negative, and consider it money well-spent, as I have a group-picture of the leading bee-keepers of this country, that has never been approached in size nor execution. I am proud of it, and shall have it framed and hung in my office by the side of my desk, where, in the intervals of my work, I can sometimes glance at the faces of those friends with whom I have passed so many delightful hours. Just think of having, all upon one sheet, nice, clear pictures of such men as N. E. France, George W. York, A. I. Root, E. R. Root, Huber Root, L. A. Aspinwall, Fred W. Muth, R. F. Holtermann, T. F. Bingham, Wm. McEvoy, R. L. Taylor, W. L. Coggshall, O. L. Hershiser, Prof. E. F. Phillips, E M. Hunt, W. D. Soper, A. G. Woodman, H. C. Ahlers, J. L. Byers, J. E. Hand, F. J. Miller, E. E. Coveyou, E. B. Tyrrell, and Chalon Fowls; but there is little use in mentioning names, as there is no stopping place.

Another thing: Many of these men were accompanied by their wives, and some of their children, all of which appear in the group.

But I have not mentioned the crowning feature. There is not much satisfaction in looking over a group of this kind if you can recognize, perhaps, only half a dozen faces, but I spent one whole day in securing the names and addresses of those in the group, giving each person a number. In other words, the members are numbered from 1 to 238, the numbers being placed upon the shoulder, or some part of the person, then the list of members, together with their postoffice addresses, are printed and placed below the group, and the corresponding, or proper, number placed in front of each name. For instance, if you wonder who is 83, look in the list, and it is H. G. Sibbald, Claude, Ontario. In this way every member can be identified—you can see exactly what kind of a looking man is some one whose writings you may have followed for years.

The picture is printed upon a semi-matt, carbon paper that gives beautifully soft tones in black and white, and mounted upon the very heaviest, ash-gray mount, 20x24 inches in size, packed between two sheets of cellular board, and sent by express, *prepaid*, safe arrival, in perfect condition guaranteed, for only $1.50; or for $2.00 I will send you the picture, and also the Bee-Keepers' Review for 1908 and 1909. Sample copies of Review, and circular giving some of the principal topics discussed this year, will be sent free upon application.

One more point: After examning the photo, if you don't care for it, feel *perfectly free* to return it, at my expense, and the money will be refunded. Get this photo, frame it, hang it in your home, and I am sure there is no picture that you will look at oftener or with more satisfaction. As a bee-keeper and a photographer, I am proud of it.

W. Z. Hutchinson, Flint, Mich.

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Booking Queen-Orders for 1909

$4.00 for 6 queens; $2.10 for 3; or 75c for

A Standard-Bred Italian Queen-Bee

For a number of years we have been sending out to bee-keepers exceptionally fine Untested Italian Queens, purely mated, and all right in every respect. Here is what a few of those who received our Queens have to say about them:

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Nemaha, Co., Kan., July 15, 1905.

✣✣✣

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Ontario, Canada, July 22, 1905.

✣✣✣

GEORGE W. YORK & CO.:—The queen I bought of you has proven a good one, and has given me some of my best colonies. N. P. OGLESBY.
Washington Co., Va., July 22, 1905.

✣✣✣

GEORGE W. YORK & CO.:—The queen I received of you a few days ago came through O.K., and I want to say that she is a beauty. I immediately introduced her into a colony which had been queenless for 20 days. She was accepted by them, and has gone to work nicely. I am highly pleased with her and your prompt ness in filling my order. My father, who is an old bee-keeper, pronounced her very fine. You will hear from me again when I am in need of something in the bee-line. E. E. MCCOLM.
Marion Co., Ill., July 13.

We usually begin mailing Queens in May, and continue thereafter, on the plan of "first come first served." The price of one of our Untested Queens alone is 75 cents, or with the monthly American Bee Journal one year—both for $1.20. Three Queens (without Journal) would be $2.10, or 6 for $4.00. Full instructions for introducing are sent with each Queen, being printed on the underside of the address-card on the mailing-cage. You cannot do better than to get one or more of our fine Standard-Bred Queens.

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Your name and address put on one side of the handle as shown in cut, and on the other side pictures of a queen-bee, a worker, and a drone. The handle is celluloid and transparent, through which is seen your name. If you lose this knife it can be returned to you, or serves to identify you if you happen to be injured fatally, or are unconscious. Cut is exact size. Be sure to write exact name and address. Knife delivered in two weeks. Price of knife alone, postpaid, $1.25. With year's subscription, $1.75. **Free** for 4 new 75c subscriptions.

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A really good pen. As far as true usefulness goes is equal to any of the higher-priced, much-advertised pens. If you pay more it's **name** you're charged for. The Gold Nib is guaranteed 14 Karat gold, Iridium pointed. The holder is hard rubber, handsomely finished. The cover fits snugly, and can't slip off because it slightly wedges over the barrel at either end. This pen is non-leakable. It is very easily cleaned, the pen-point and feeder being quickly removed. The simple feeder gives a uniform supply of ink to the pen-point without dropping, blotting or spotting. Every bee-keeper ought to carry one in his vest-pocket. Comes in box with directions and filler. Each pen guaranteed. Here shown two-thirds actual size.

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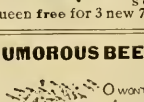

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(Entered as second-class matter July 30, 1907, at the Post-Office at Chicago, Ill., under Act of March 3, 1879.)

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GEORGE W. YORK, Editor | CHICAGO, ILL., NOVEMBER, 1908 | Vol. XLVIII—No. 11

Editorial Notes and Comments

Uniting Weak Colonies

Although it is better that the work should be done earlier, there is still time to unite weak colonies, and the beginner is urged not to try to winter a number of weaklings. One of the lessons learned by a beginner very slowly is that it is the total number of bees one has that counts, and not so much the number of hives in which bees may be found.

Mr. Beginner finds it an easy thing to increase. He has hived all afterswarms separately, and perhaps not content with the results of natural swarming he has taken the matter of increase into his own hands and made a number of colonies—perhaps better named nuclei—by artificial increase. As a result, not one in 4 of his colonies is fit to enter the winter, if indeed he has not divided up that one in four. With so many hives occupied, he looks forward hopefully to the following spring, and in anticipation begins to count upon the great increase he will make in the season following. He has yet to learn the hard lesson that so long as he believes in wintering weaklings, *the larger the number he tries to winter the smaller the number he will have the following spring.*

The sad part about it is that telling him the truth about it does little good. Only when he learns by experience is he willing to believe that it is better to winter one strong colony, and feel pretty certain he will have that one colony at the opening of the next season, than to attempt to winter two weaklings with a fair chance that he will have 2 hives containing only dead bees the following spring.

But occasionally a beginner will be found who will so far overcome the craze for rapid increase that he will listen to a word of advice from experience, and it is for this occasional beginner that this item is given.

Good Point in Selling Honey

Water is so abundant, so cheap, that we hardly appreciate its value. Yet valuable as it is, one does not care to buy it at the rate of several cents a pound when it is not necessary. The man who buys 100 pounds of turnips pays for 90 pounds of water. Many other articles of food, although not containing so large a proportion of water, have still more or less of it, and in comparing articles of diet the amount of water in them has something to do with their relative cheapness.

Beekeepers are more or less familiar with the percentage of water contained in honey, but the probability is that the majority of them have never thought of the small amount as compared with many other common foods. Ask the average bee-keeper whether honey contains more or less water than a juicy beefsteak, and it would be nothing strange to hear him say, "Honey is a liquid, beefsteak is not; of course there is more water in the liquid." It has perhaps never occurred to him that there is 3 times as much water in beefsteak as in honey. This is a good point for the salesman to make when presenting the merits of honey to the consumer. W. K. Morrison thus puts it in Gleanings:

> "Honey is one of the dryest of human foods, as it usually has less than 20 percent of water. Beefsteak, of the most expensive kind, contains 65 percent, and even then there is some bone to be reckoned with. Some of our most expensive fruits and vegetables are nearly all water, 95 percent, and some even more! This is a point that bee-keepers can harp on a good deal. Anybody can easily see that, between a pound of steak at 18 cents and a pound of honey at 18 cents, the advantage lies with the honey. Moreover, honey will keep indefinitely, whereas beefsteak deteriorates in a few hours."

Drone-Comb in Extracting-Supers

The common teaching is to discourage the drone-comb very largely, if not entirely. Now comes M. H. Read, Hon. Sec. Irish Bee-Keepers' Association, and proposes "nothing less than to aim at the production of a good supply of drone-comb for use with the extractor."

The first reason given is that the honey will flow more readily from the larger than from the smaller cells. There is probably something in that. "Besides," proceeds the writer, "the bees naturally draw drone-cells out more than worker-cells, and there is the advantage of less labor in uncapping for a given weight of honey. Further, spacing of combs means fewer bee-spaces between them in a super; so that the super should contain the more honey."

This will no doubt appeal to the inexperienced beginner, but it will hardly bear investigation. "The bees naturally draw drone-cells out more than worker-cells" when both are, occupied with brood, but do they when used for storing honey? There may be just as wide spacing with worker as with drone-comb, and with the same spacing there will be the same number of bee-spaces, and the same amount of honey in the super.

If drone-comb is suppressed at all in the brood-chamber, the bees will be sure to have drone-comb in the extracting-super, unless prevented by excluder-zinc, and some good extracted honey-producers do not otherwise find it necessary to use excluders. Even when an excluder is used, have you never seen the bees keeping drone-cells empty in the super in the vain hope that the queen would come up and occupy them?

Crushing Bees When Handling the Frames

Between the end-bar of a frame and the front or rear wall of a hive the space is so small that some care must be

American Bee Journal

taken or more or less bees will be crushed when a frame is lifted out or put back in. Some are so steady of nerve and muscle that they can move frames quite rapidly while maintaining the proper distance between end-bar and hive-wall, so that a bee is rarely injured. Not so others.

To prevent mangling bees, some have a staple driven into the outside of each end-bar, near the bottom, which prevents the possibility of allowing the end-bar to strike against the hive-wall. Some will object that at least in some cases the jarring of the staple against the hive-wall is objectionable, as when one is looking for a queen, for a very slight amount of jarring sets the bees to running, when the finding of a queen becomes a doubtful problem. L. S. Crawshaw has a plan to avoid danger without having end-spacers on the lower ends of the end-bars. He says in the British Bee Journal:

"I have devised a method by which speed and certainty may be secured, even with the last comb and tight quarters. Slide the end-bar down the hive side; that is, allow double beeway at one end and none at the other. This prevents sway or swing in any direction, and crushing cannot take place."

Thanksgiving Day has come again,
With blessings great and small.
Let thoughts of gratitude o'erflow
The hearts of one and all.

Late Uniting of Colonies

About this time of year it is a common thing to have the questions, "How shall I unite? What about queens when uniting?" etc. Well, the manner is not so important as it is that you unite any colony that is so weak that its living through the winter is a doubtful problem.

A very weak colony may be united with one that is not very weak, but yet hardly up to the mark. Two weak colonies may be united, or more than two. Any way, so that when you are through there shall be no colony which has not enough bees to cover well at least 4 Langstroth frames, and better still if it cover 6 or more.

With regard to queens, if there is any choice, save the best and destroy the others. If you know of no preference, leave it to the bees. In the matter of uniting 2 colonies of unequal strength, you may expect that the queen of the weaker will be destroyed by the bees.

If the colonies to be united are some distance apart, unite on the stand of the stronger colony. If the colony to be moved is made queenless 2 or 3 days before the removal, there is less likelihood of bees returning to the old stand.

If the uniting is done by alternating frames—first a frame with its adhering bees from one hive, then a frame from the other hive—there will not be likelihood of much fighting. But of late the tendency is to proceed by two stages, first a sojourn together in the same hive without any real mingling of the bees, then the real uniting. One way is to put the two separate lots in the same hive, one on each side, and after two or three days move them up together. The Scotch authority, D. M. Macdonald, varies this by putting the two lots as close as possible together while still separated by a dummy, the dummy having carbolic acid smeared on its edges. After 24 hours the dummy is removed and the frames moved up together.

Another way that requires little skill will suit many. Set one hive with its contents over the other, with wirecloth between. After 2 or 3 days the 2 lots will have acquired the same scent, and may be united. A favorite plan with some is to put a single sheet of newspaper between the 2 hives instead of the wirecloth. The bees will gnaw the paper, gradually uniting peaceably. The 2 stories may be reduced to a single story at the convenience of the beekeeper after 2 days, or after a week or more.

Here is a plan from Gleanings that will be especially heartening to any one who may fear he has put off uniting too late:

"A very good way to unite, and avoid all loss of returning, is to do so at the very time of putting them in the cellar. For example, A and B are both too weak to winter outdoors. We will place the two together in one hive, making a broodnest out of the best combs selected from the two hives, leaving the other combs for reserve feeding in the spring. As soon as the two families are placed in one hive they should be put in the cellar immediately, and left there till spring."

Packing Comb Honey for Shipment

We received the following letter just a little too late for its appearance in the October number:

EDITOR YORK:—I have about 1000 pounds of comb honey in 4¼x4¼x1⅞ sections, in 24-pound shipping-cases, which I want to ship, but I am at a loss to know how to pack it in crates. I suppose about 6 cases to a crate would be best.

Have you a cut, or can you give me a description of how to make a crate?

Should there be space left around the shipping-cases for excelsior or straw packing?

A. S. CROTZER.

This is indeed a very important subject, and one, fortunately, in which we have had somewhat extensive experience. For several years we were dealing in honey in a large way, and, of course, received and reshipped many consignments of comb honey, and never, so far as we recollect, was there any loss when properly packed for shipment.

The illustration herewith shows the correct method quite clearly. Before putting in the cases of honey (any number desired, but perhaps 6 or 8 of the 24-pound cases are enough for one crate), there should be from 4 to 6 inches of straw, hay, or excelsior put in the bottom of the crate, on which to place the cases. It acts as a cushion, so that the honey will not be broken out of the sections should the crate be set down rather hard.

While it may not be adsolutely necessary, we think it advisable to have the crate large enough so that the packing material can be put at the sides of the cases as well.

A very important matter is the handles, made by nailing on boards at the sides of the crate, and nearly at its top, and extending far enough at each end so that they can be used as handles by two men to carry the crate of honey. These projecting handles also help to prevent the crate from being turned over endwise as might be done by some careless or ignorant freight-handlers.

Of course, each crate will have strips or boards nailed on top so that no case of honey can be taken out without first removing the crate's top. And on the top should be put, either printed on cardboard or with large, black marking paint, these words:

COMB HONEY
HANDLE WITH CARE

We believe the railroad companies require the glass sides of the cases to be turned inside the crate so as to be unexposed.

CRATE FOR SHIPPING COMB HONEY.

We have invariably found that when comb honey is thus prepared for shipment, it arrived at its destination in perfect condition. It pays thus to pack it and not run any risk of having it broken in transit.

After the bee-keeper has produced a fine lot of comb honey, why, by care-

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lessness or negligence, lose half or more of its value by not preparing it properly for safe shipment? Crates may cost a little extra, but in the end they pay well—both in satisfaction to the shipper, and in greater convenience for handling the honey.

Western Honey Quotations

The following letter largely explains itself:

EDITOR YORK:—In the American Bee Journal for October, on the first editorial page, is a comment entitled, "The Honey Market Unusual," wherein it is claimed that comb honey stands firmly in San Francisco at 17 cents. By the way, I see Gleanings makes the same claim.

Now the above quotation is very far from the truth, in proof of which I enclose 2 letters, one from a commission firm in Sacramento, and the other from a bee-keeper in Nevada. Note the commission man informs me that Mono County and Nevada have had big crops of honey. Well, I know that Mono County had less than 400 cases of comb honey; and Mr. J. W. Carter of Nevada, informed me in September that this was the poorest honey season he had known in his bee-keeping experience of 17 years. So far as my own experience goes, this is my first season in this part of the country.

I don't know how to run a bee-paper, but it seems to me you ought to be in a position to be better informed as to the real condition. I have been a subscriber of the "Old Reliable" ever since you became its editor, so I know very well it was not the intention to misrepresent.

I am hoping for better honey-prices.

H. CHRISTENSEN.

Coleville, Mono Co., Cal., Oct. 26.

The letter Mr. Christensen enclosed from the Sacramento house claims there is a large supply throughout Nevada, as well as in Mono and Inyo Counties, California, with little demand; saying that they deal only on commission, and can get about 12 cents for fancy white. The Nevada bee-keeper says all he can get is 9½ cents for first grade and 8½ cents for second.

The desire of the American Bee Journal is always to give the truth as nearly as it can find it; and so our correspondent has our thanks for his letter. If 17 cents is too high a quotation for San Francisco, it is best that we should know it. The authority for 17 cents as the highest price for water-white comb is the Pacific Rural Press. While there is a wide margin between the prices sent by our correspondent and that quoted by the Pacific Rural Press, the question is still an open one as to the correctness of the latter, for Sacramento prices and prices in Nevada may vary no little from prices in San Francisco. Still, it is hard to understand so much difference in so short a distance. Perhaps some of our San Francisco friends can help us out.

Larvæ for Queen-Rearing

For a long time Editor Hutchinson and Dr. C. C. Miller have been at outs as to the wisdom of the bees in selecting the right larvæ for queen-rearing, the former insisting that when bees are made queenless they are in such haste to rear a queen that they select larvæ too old for best results, the latter insisting that this is a libel on the bees.

Dr. Miller has for a long time been trying to get Mr. Hutchinson to try an experiment, but without success, although, he says, "I have coaxed him, I have defied him, to make a very simple experiment that I think would convince him—simply to unqueen a colony, and then look 24 hours later and say how old were the larvæ he found in queen-cells." To this Mr. Hutchinson now replies (Bee-Keepers' Review, page 313), "I don't know how large a larva is at one day old, nor at 2 days, nor at 3. Perhaps it is to my shame that I don't, but I don't. I know when a queen does not come up to the mark, but I don't know how large is a 2-day old larva." Then he gets back at Dr. Miller after this fashion:

"I have repeatedly asked him to explain why some of the queens were inferior when the bees were given larvæ of all ages to choose from, and why the queens were all excellent when the bees had only just-hatched larvæ from which to make a choice, and he has never attempted a reply."

It is now up to the Doctor to come forward with an answer. If he begins his answer as does Editor Hutchinson with "I don't know", will the two answers put together be sufficiently illuminating to enable us to decide whether the bees are sufficiently wise to select proper larvæ for queen-raising?

To Prevent Bee-Stings

When about to handle bees, wash the hands with weakened carbolic acid.—Praktischer Wegweiser.

Nothing is said as to how long the effect of the acid remains, or how often the hands should be thus perfumed if one is to work with bees all day. If one washing will last long enough, and it proves effectual in preventing stings, some who use gloves may find it worth while to try the proposed preventive.

Visitors from Austria

Mr. and Mrs. A. Schrœder, of Trieste, Austria, visited us October 23. They arrived in this country Oct. 16th, and expected to remain only a very short time. Mr. Schrœder now has 32 colonies of bees, while sometimes he has 50 colonies. He has been a subscriber to the American Bee Journal for over 30 years. He was unfortunate in not coming to this country in time to attend the National convention in Detroit. Mr. S. speaks 5 languages, and both are very pleasant to meet.

The Detroit Convention Photograph

The secretary of the National Bee-Keepers' Association, Mr. W. Z. Hutchinson of Flint, Mich., went to considerable expense to get an expert photographer to take a picture of those attending the National convention at Detroit, Oct. 13, 14, and 15. The picture is 20x24 inches in size, and will be sent by prepaid express for $1.50. It is a most beautifully finished photograph, every face being very clear and distinct. As Mr. Hutchinson says in his advertisement on another page of this number, it would be a fine picture to frame and hang up in any bee-keeper's home. It is the best picture ever taken of any National bee-keepers' convention in this country. We hope that Mr. Hutchinson wil receive a large number of orders for it.

Bee-Moths and Their Endurance

In an article in Praktischer Wegweiser, it is said that the eggs, larvæ, and pupæ of the bee-moth are so tenacious of life that they will endure the cold of winter without being destroyed. That is contrary to common belief in this country; for certainly many count combs entirely safe that have been left out to endure the freezing of winter. It would be interesting if we could learn how far south this holds good.

Among the means for prevention given in the article mentioned, it is rather strange that the two most important means—at least considered the most important in this country—namely, strong colonies and Italian blood, are not mentioned.

The C. M. Scott Co. Won First Prize

The C. M. Scott Co., of Indianapolis, Ind., was awarded the first prize on display of bee-supplies over the strongest competition ever exhibited in Indiana, at the State Fair in September. The line of goods handled by the Scott Company is the famous Lewis Bee-Ware.

Illinois State Fair Apiarian Exhibit

It was our privilege as well as honor to be selected again as judge of the bee and honey exhibits at the Illinois State Fair, held at Springfield, Sept. 25 to Oct. 2, 1908. We have seen a number of apiarian exhibits at various fairs, but with the exception of those at the World's Columbian Exposition here in 1893, we believe the exhibits in the department of "Bees and Honey" at the Illinois State Fair this year were the best we ever saw.

There were only 6 exhibitors in all, and only 4 who really competed in everything in the apiarian line. They were, Aaron Coppin, of Wenona; Chas. Becker, of Pleasant Plains; Jas. A. Stone & Son, of Bradfordton; Geo. Rumler, of Indiana; Louis Werner, of Edwards-

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ville; and the 6th person who had only one exhibit, and that was a display of designs in beeswax. The first 4 mentioned were very fine indeed.

The premiums as finally awarded were as follows, using only surnames in order to be brief:

Display of Comb Honey—1st, Coppin, $20; 2d, Rumler, $15; Becker, $3.
Collection of labeled cases containing 12 or more pounds of white honey from different flowers—1st, Becker, $8; 2d, Coppin, $5; 3d, Rumler, $3.
Collection of labeled cases containing 12 or more pounds of amber or dark honey from different flowers—1st, Coppin, $8; 2d, Becker, $5; 3d, Rumler, $3.
Case of white clover comb boney, 12 to 24 pounds—1st, Coppin, $4; 2d, Stone, $3; 3d, Becker, $2.
Case of sweet clover comb boney, 12 to 24 pounds—1st, Becker, $4; 2d, Coppin, $3; 3d, Rumler, $2.
Case of basswood comb honey, 12 to 24 pounds—1st, Coppin, $4; 2d, Becker, $3; 3d, Rumler, $2.
Case of amber comb honey, 12 to 24 pounds—1st, Rumler, $4; 2d, Coppin, $3; 3d, Werner, $2.
Display of samples of extracted honey, not less than half-pound each—1st, Stone, $5; 2d, Becker, $3; 3d, Coppin, $2.
Display of extracted honey—1st, Becker, $20; 2d, Coppin, $15; 3d, Stone, $10.
Honey extracting on the grounds—1st, Stone, $5; 2d, Coppin, $3; 3d, Becker, $2.
Frame of comb honey for extracting—1st, Coppin, $5; 2d, Stone, $3; 3d, Werner, $2.
Display of candied honey—1st, Stone, $20; 2d, Rumler, $15; 3d, Becker, $10.
Display of beeswax—1st, Becker, $15; 2d, Stone, $10; 3d, Rumler, $5.
One-frame observatory hive dark Italian bees—1st, Werner, $4; 2d, Becker, $3; 3d, Rumler, $2.
One-frame observatory hive golden Italian bees—1st, Rumler, $4; 2d, Becker, $3; 3d, Werner, $2.
One-frame observatory hive Carniolan bees—1st, Becker, $4; 2d, Rumler, $3; 3d, Coppin, $2.
Honey Vinegar, one-half gallon, with recipe for making—1st, Coppin, $4; 2d, Stone, $3; 3d, Rumler, $2.
Display of designs in honey—1st, Becker, $15; 2d, Coppin, $12; 3d, Werner, $8.
Display of designs in beeswax—1st, Stone, $20; 2d, Becker, $12; 3d, Coppin, $8.
For manipulating a colony of bees in cage—Werner, $15.

One of the beeswax designs that attracted the most attention of visitors was exhibited by Jas. A. Stone & Son. It represented Uncle Sam chained to the saloon, the whole thing—saloon building, chain links and Uncle Sam—being made of beeswax. It certainly was an impressive temperance lesson. But some of these good days Uncle Sam will be freed from his cursed connection with the whole infernal liquor business. And bee-keepers will help break the chain that binds them together. May the coming of the glad day be hastened!

EXHIBIT OF AARON COPPIN, AT ILLINOIS STATE FAIR.

We were indeed proud of the exhibits made by bee-keepers at the Illinois State Fair. Mr. H. J. Cater, the genial and very capable superintendent of this particular department of the Fair, feels greatly encouraged. He also has charge of the culinary department, and is making a success of his work in the interest of bee-keeping and the kitchen.

We are glad to be able to accompany this report with some pictures of the apiarian exhibits which were so difficult to judge, on account of their general superior excellence.

EXHIBIT OF JAS. A. STONE & SON, AT ILLINOIS STATE FAIR.

Detroit National Convention Notes

Another National convention has been held. It was a good one, too. The attendance was large—some 250. Not quite as many Canadian representatives as we expected, but their quality was finer than their famous basswood honey, which was such a "bone of contention" years ago. (Honey isn't usually very "bony," is it? Still, we used to hear of some honey that was "fishbony," on account of the comb foundation used in it not having been thinned down properly by the bees.

Dr. Miller was *very* conspicuous on account of his absence. Many enquired for him. There seems to be a large vacancy in any National convention when the good Doctor is not there. He is revered all over this and other lands, not only for his extensive apiarian knowledge, but for his excellent personal qualities. To know Dr. Miller is simply to love him. We count it one of the chief joys of our life that we have had him so long as an intimate friend and advisor. My he live to be a hundred years!

Mr. A. I. Root was also present during nearly all the convention proceedings, and often took an active part. He is getting towards the 70th milestone, and yet seems to be holding his own in health and otherwise. His name is probably more widely known than that of any other bee-keeper in all the world. He has done so much to advance the interests of bee-keepers, through apiarian inventions, and the pushing of improvements of others. The name of Root will ever be honored as a leader in progressive bee-culture.

Then President Hilton, with the keen-

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ness and deliberation of the practiced politican, presided over every session. His opening address was an eloquent effort, and closed with a beautiful sentiment in which both the Stars and Stripes and the Union Jack blended most effectively. It struck a responsive chord in all hearts, and there was great applause.

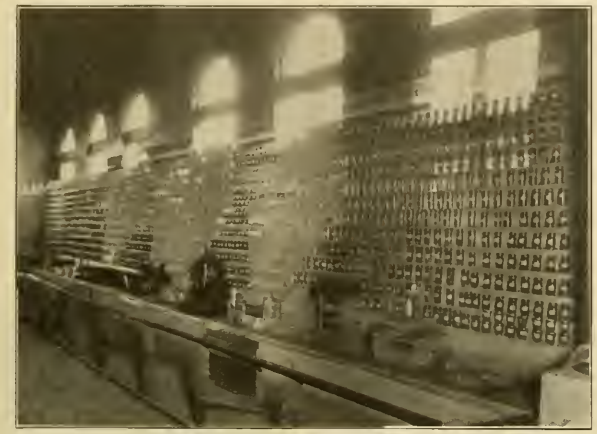

EXHIBIT OF CHAS. BECKER, AT ILLINOIS STATE FAIR.

Secretary Hutchinson, as of old, was present, and had with him his usual peaceful and quiet expression of countenance. He had done his best to get up an entertaining program, including apiarian exhibits, and succeeded.

M. E. Darby was there also, who, even if he does live in Missouri, doesn't need to "be shown" very much. He is the State inspector of apiaries.

Mr. and Mrs. R. A. Holecamp were on hand from St. Louis. They also attended the San Antonio convention in 1906. "Mama" Holecamp was very popular on that trip, for when the train was some 4 hours late, and many of us were hungry, she very generously distributed the "goodies" from her large lunch-basket. Seems to us some one has aptly said that the way to a man's heart is through his stomach. Perhaps that was one of the ways she captured "R. A." And he won a good cook, too.

Then there was General Manager N. E. France, with Mrs. France and only daughter, also youngest son, "Lawrence." It will be remembered that at the Harrisburg convention last year, a gold watch was presented to Mr. France; and, with the extra money, some beautiful solid silver spoons were sent to Mrs. France. To be "watched" while "spooning"—well, all was deserved and thoroughly appreciated by both Mr. and Mrs. France.

Drs. Phillips, White, and Snodgrass, representing the bee-keeping interests of the U. S. Department of Agriculture, gave splendid addresses. Dr. Phillips also showed many pictures of apiaries in Hawaii, with the aid of the stereopticon.

Ernest R. Root, editor of Gleanings in Bee-Culture, not only handled the moving picture show the second evening, but also at the first evening session handled bees in a wire-cloth cage. The object was to show bee-keepers how such a demonstration could be used effectively at fairs and elsewhere in creating a larger demand for honey. Mr. Root took off his coat, vest, and collar, rolled up his sleeves, tucked his trousers in his stockings, and then with neither gloves nor veil—simply a bee-smoker—he went into the cage and lifted the frames of bees from the hive, shook them off into a large tin dishpan, and then shook them again as in a corn-popper until they didn't know "where they were at." He took them very gently out of the pan in handfuls, "washed his face," and "combed his hair" with them, and then afterward gathered them off his face, hands, and clothing, and carefully put them back into the pan. And he didn't receive a single sting. It was an interesting demonstration, especially at night with the electric light. Of course, all the time he was manipulating the bees, he talked. It is certainly a very good way to interest a popular audience, who know practically nothing about bees or bee-keeping. And we imagined it was exceedingly interesting to many of the bee-keepers present. At any rate, no one offered to enter the cage with Mr. Root, although there may have been some in the room who would have enjoyed (?) the bee-cage experience.

A. G. Woodman Co., of Grand Rapids, representing the G. B. Lewis Co., and M. H. Hunt & Son, of Lansing, with the Root Co.'s bee-supplies, had good displays. Of course, sample copies of the 4 bee-papers published in the United States and Canada were free to all.

Canada was represented by some of her best bee-keepers, among them being, Wm. McEvoy, J. L. Byer, R. F. Holtermann, H. G. Sibbald, Jas. Armstrong, F. J. Miller, and Editor Jas. J. Hurley, of the Canadian Bee Journal.

Detroit is a beautiful city, but the hall in which the convention was held, was still under construction, so that the hammering and sawing was most annoying. At times it was utterly impossible to hear the words of any speaker. Of course the night sessions were quiet.

It seems to us that while there may not be a growing lack of interest in conventions, some radical changes are needed somewhere to make them more entertaining and profitable to those who attend. It means a good deal to keep up the proper interest in order to make them worth while year after year. Secretary Hutchinson did well, during the past few months, in arousing interest in the Detroit meeting. Perhaps there was not enough of the question-box. This was most unfortunate, as there were present some of the greatest bee-keepers in the world. No doubt they would have been glad to contribute to the general fund of apiarian information, had ample op-

APIARY OF A. H. SHELTON, OF GOODWILL, W. VA.

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portunity been given. We are becoming more and more converted to the question-box idea, as it encourages discussion so much more than does the reading of papers, some of which are rather long. But of course this is not intended as an unfavorable criticism of the managers of any convention—only a personal opinion.

We really believe that the convention program is a very important matter. What can be done at a bee-keepers' meeting that will make it of most value to those who attend? This is a good question, and upon its correct answer depends the best success of any convention.

A Successful City Apiary

I send you a photograph of a part of my city apiary. Before coming to Indianapolis I owned about 30 colonies of

Apiary of N. J. Masten.

bees, but thought it impossible to keep them in the city, so I disposed of them, much to my regret. After living here a year or two the fever returned, as it always does after having once owned them, and I ventured to buy a colony or two. And I find that bees can be kept in the heart of a city, with pleasure and profit, without disturbing the neighbors.

My lot is 20 by 50 feet, and this accommodates the little apiary and my chickens. From the hive at my left on which the smoker rests, I got 106 pounds of comb honey, and sold it for 20 cents per pound to my neighbors, and have enough left for family use.

I am an ardent believer in 10-frame chaff hives for outdoor wintering and honey-production.

It is astounding how little the general public knows in regard to bees. One of my neighbors came to the back fence and said, "Mr. Masten, one of your bees is over in my yard. I wonder if it will ever get back home." And another, "How did those bees ever all happen to come and go into that box? How can you keep them there?"

When we see the ignorance displayed about bees, we feel that there is a wide field for missionary work.

N. J. Masten.

Indianapolis, Ind., Oct. 25.

Apiary of A. H. Shelton

I am enclosing a picture of my apiary located in the heart of the flat-top coal field. I started in the bee-business May 28, 1908, but it was nothing new to me, as my father kept bees when I was a boy. I was brought up in North Carolina. I have Italian bees only, as I think they are the best for all parts of this country. [See previous page.—Ed.]

Goodwill, W. Va. A. H. Shelton.

Telephones for Out-Apiaries

M. H. Mendleson tells in the Bee-Keepers' Review, about using telephones to communicate with his men at out-apiaries. In order to reach one apiary he has 17 miles of wire put up at his own cost, and he says, "This telephone system has saved me much time and money. I would be at a loss without it."

Two California Apiaries

I send photographs of 2 apiaries located in the hills not far from where I live. No. 1 represents the apiary of J. L. Scott, who runs his apiary for extracted honey, but keeps a small portion on hand in sections in case he has a call for it. He uses 10-frame standard hives. The principal honey-plants in his locality are sage, wild buckwheat, and alfalfa. Mr. Scott has 110 colonies of bees.

Picture No. 2 is Mr. Barrett's apiary. Mr. Barrett is a resident of Burbank, Cal., but runs this apiary in a canyon in the foot-hills in Hansen Heights. Mr.

No. 1.—Apiary of J. L. Scott.

Barrett has about 130 colonies of bees and runs for extracted honey.

The honey crop in this section has been quite light this year.

Andrew H. Kimball.

Sunland, Cal.

Hershiser on Marketing Honey

On another page will be found the very valuable paper read by Mr. O. L. Hershiser, at the Detroit convention of the National Bee-Keepers' Association, held last month. We felt that it might do much good this year yet, if it were published at once. So we requested permission to put it in this number of the American Bee Journal. We wish that it might be read most carefully by all. Mr. Hershiser has had large experience, and knows whereof he speaks. It is a most valuable contribution to the literature on marketing honey. Read it carefully, and try to put into actual practice its many excellent directions for disposing of your honey crop.

Apiary of M. M. Baldridge

The picture on the first page shows my apiary of nearly 60 colonies as it appeared on August 4, 1908. It is located in the central part of St. Charles, which has now a population of about 4,000.

The main purpose of this photo is to show the close proximity of the apiary to 2 of the public streets and the home of one of my neighbors. The hives front the east, and the front row is within 50 feet of the sidewalk on which a great many people, including many children, pass daily. The hives on the north end of the 5 rows are within the same distance from the sidewalk on the east and west street that leads to one of the public schools, and on which many children pass daily when the school is in session, and yet my bees do not molest any one, so far as I am advised. At least I have had no complaint from any

No. 2.—Apiary of Mr. Barrett.

one passing by my apiary on either of these sidewalks. My neighbor's house in the background is within 75 feet of the west row of my apiary, and no one has been stung or molested there for a long time, so far as I know.

My bees are both hybrids and Italians. The reason why my bees do not molest my neighbors and others passing by on the sidewalks, must be attributed, I think, to the way I manage them, for during June and July each year I am at work with the bees almost every day, and sometimes every hour in the day. I wear no bee-protection on my face or hands. In fact, I have no bee-veil on the premises, and have had none for a number of years. My idea is that if I can manage my bees without a bee-veil they will then disturb no one outside of the bee-yard. And this I find to be true in practice.

I have now kept bees in this same yard for the past 37 years, and they have always been managed in about the same way.

M. M. Baldridge.

St. Charles, Ill.

Apiary of W. H. Rickstrew

On 1st page my apiary is shown. The tree in the background is apple. The foliage in front is buckwheat in bloom. But the buckwheat was a failure here this year. I sowed three times, but the bees would not work on it. I have it now in fine bloom, but my bees will not work on it. I have 25 colonies, but got about 200 pounds of comb honey.

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I had the same proposition that "Illinois" ran up against. I had several sections that leaked, but not so badly as his.

W. H. Rickstrew.

Meridian, Okla., Sept. 15.

Foundation-Splints

A writer in The Bee-Keeper's Review says, "I used some of the Miller sticks in place of wiring. They will work, but do not make as nice combs as those with proper wiring. They save on time, and that is the only advantage."

Alfalfa Honey of Washington State

Anson S. White of Yakima Co., Wash., who was superintendent of the honey exhibit at the Washington State Fair at North Yakima, says in a letter to the Spokane Chamber of Commerce that the season's output of honey in Yakima County will be approximately 100 tons, the value of which is estimated at $20,000. Most of the honey was gathered from Afalfa. It is clear white of fine grade. Italian bees are the most popular in that valley. Mr. White says than 100 colonies at his apiary yield 5 tons of product.

Bee-keepers in the district are interested in candied honey, as Mr. White's product crystalized more rapidly than any of the others. His was stored practically all from alfalfa and some of the others contained nectar from other flowers. It is believed that if no other plant than alfalfa is visited by the bees, crystallizing will take place with more certainty, and crystallization is much to be desired, as it is a proof of purity. It is also an easy way to handle, as paper packages can be used, thus dispensing with comb and bottles. The granulated honey is so convenient for table use, as it can be handled like butter.

A Short Visit at Dr. Miller's—The T-Super

On Oct. 27th, we unexpectedly found that we could call on Dr. Miller, at Marengo, Ill. We had been to Freeport, Ill., on business, and returning to Chicago we stopped off at Marengo. We found the Doctor and family well, and in the midst of cleaning and casing his large crop of honey for market. The total was 19,480 sections from about 129 colonies, spring count. And the honey is the finest white clover. It weighs about 11 pounds to the 12 sections—a nice, uniform weight.

We were shown just how Miss Wilson cleans the sections, both top and bottom, before taking them from the super. She can easily clean 1000 a day in the T-super. They are scraped and sandpapered on top and bottom in lots of 24. We know of no other super that compares with the T-Super for rapidity of handling from the empty sections to the full case, ready for shipping to market. It is a pity that comb-honey producers, who wish ease of handling and to do rapid, effective work, can not be led to see the merits of the T-super. In the matter of cleaning the sections by the superful it has no equal on the market. And then there are so few "contraptions" and pieces to it. It is *so* simple in construction.

But one needs to *see* how all the details are handled in connection with this super, else he will not comprehend its great advantages. It is very difficult to describe them on paper so that they will be understood. But Dr. Miller has everybody "beat" when it comes to a comb-honey super. He has no financial interest what-so-ever in its sale, so from a financial point of view he doesn't care a fig whether or not bee-keepers use this super. But for their own great benefit he can not understand why the T-super is passed over, and others, which lack so much in real merit, are used so extensively. It must be because the T-super has never been pushed by the manufacturers.

We believe that if the dealers in bee-supplies could understand just how Dr. Miller uses the T-super, and could see how really superior it is in every way in which a comb-honey super is used, it would not be long before all comb-honey producers would have it, and no other.

If Dr. Miller and Miss Wilson could be persuaded to make a demonstration, of this super at the Chicago-Northwestern convention, Dec. 2 and 3, it would be a great thing. We'll ask them to do it.

But we didn't start out to boom the T-super, even if it is a good thing. We expected only to report that Dr. Miller looks younger, and seems to be feeling better, than he did several years ago; ditto Miss Wilson; and that they harvested next to the largest crop of honey in 1908 that they ever had. Their former largest crop was in 1903.

Conducted by EMMA M. WILSON, Marengo, Ill.

Split Sections.

A good deal has been said about split sections lately. One of the sisters, Bertha M. Timoney, thus expresses herself in Gleanings in Bee Culture:

"The split section is all right until taken from the hive. I have but one life to live, and I do not want to take part of that in explaining to people why I took that nice, white, polished section and made that ungainly sawcut through it, and then plastered the crack up with beeswax."

That's well said. Whatever the brethren may think about it, a sister's sense of daintiness will object to that ugly blight upon our pretty sections. With both top and bottom starters, all objectionable appearance is avoided, and the business is done just as well.

A Sister Queen-Breeder — Moving Bees—Taking Off Honey.

I have been purchasing from 5 to 20 queens every year for the last 25 years, and the best queens I ever received came from a lady residing in Illinois. I was then residing in Rock Co., Wis. These queens were extra-well behaved, only moderately yellow, and good workers. So that I requeened a whole apiary with them, which averaged 125 pounds of comb honey to the hive the next season. I had 2 of the queens sent to California, where several thousands were reared, of nearly the same stock. I could at one time count up 15 apiaries which were established with this stock. Several of these apiaries we have read about, in the bee-papers.

As these bees were continued to be bred here in California, they became of the lemon-yellow shade; or, a sort of watery-grey. The workers were so unusually large as to cause astonishment. I exhibited them at fairs where there were others from different States, and there was never a bit of trouble in walking away with all the premiums. They were extra quiet at the fairs. That is, they did not worry over their confinement. A 2-comb observatory colony finished up a row of 17 queen-cells while perched on a standard in the exhibition room, and after sealing the cells they added the little combs to the cells as they often do in strong colonies. It requires either very correct management, or else very well-disposed bees when they complete every cell under disturbed conditions.

I always sold the queens for $5 each. Several hundred have been stolen from the apiaries when I was away. For several years it was quite common to miss several of my best colonies in the spring. And three or four who stole colonies or queens wrote me letters of confession, years afterward. And those hees actually gathered lighter colored honey than any other stripe of bees I ever saw. I have never been able to buy as good stock as I was able to produce from home stock. The only way to get or keep good stock is to keep rearing and selecting. The bees of the best established breeders in the United States are all the time changing, in color and other characteristics.

One day as my wife was returning from the post-office she saw a small swarm on a fence-post, and an old man and several other persons looking at them. Our apiary was about 2 miles away. She looked at the bees and said that she knew they were from our apiary, although there were other apiaries

nearer. This made the old man so angry that he scolded and went into the house in a hasty way, and confident that she could not get them. She folded her lap-robe in a manner as to make a sack by the aid of a few pins, and pinned one of her bee-gloves, which she also used for driving, on the inside of the sack. As she expressed it, those bees got on the inside in post-haste. In 5 minutes there was not a single bee outside. They had been traveling and clustering so long that they were anxious about the matter. She said she would not have taken them if the man had not acted so spitefully.

When I kept less bess than now, I practiced moving them several times a year to catch the honey-flows from different sources. In the spring of a good season my bees would be located in the valley so that their removal to the sage-fields was the first thing to be done at the approach of a good season, or, a good honey harvest. A part of this operation is different from the usual methods which are followed by other bee-men, which is that my bees are always loaded on the wagons at midday and the trip is made during the afternoon and evening. The bees endure the confinement better, and begin to work in better disposition the next morning. I have hauled 48 colonies 35 miles between 12 o'clock noon, and 12 o'clock midnight, with one horse, and the horse did not sweat, although it was a very hot day in July. And most of the hives were double stories and full of honey. It requires an expert knowledge of the roads and horsemanship to do such things. For 4 to 6 weeks before moving the bees I began to fit the horses for it, by better and heavier feed and exercise at heavy work. I prefer to use 2 wagons, each drawn by one horse, rather than 2 horses on one wagon.

Well, what I am trying to get around to say is that one time I loaded up 2 wagons with bees and drove them up in front of the house, in the street, and hitched while I ate dinner, expecting to engage a young man a short distance up the road to drive one of the loads. My wife had been in bed for a week or more, but when she saw the loads of bees through the window she began to make up her mind to go along and drive, as she had often done before. The interests along the road, the camping out, and the cares which came swiftly into mind, entirely dispersed her disease. She took all of the honey out of the 200 or more colonies, amounting to 10 or 15 tons, and managed the hiving of hundreds of swarms, and when the harvest was over she was strong and hearty, and weighed 16 pounds more than at the start.

She always chose the removal of the honey from the hives as her part, even if there was hired help. We often hired women to do the housework, and men to uncap combs and turn the extractor, but never to remove honey from the hives or manage swarms. That part requires skill and judgment, which is not so easily picked up. We could better afford to have inexperienced help waste honey, or abuse the machines, than to misuse the bees in removing the combs from the hives. I believe the nature of the bees is varied very much by the way they are handled.

C. W. Dayton.

Los Angeles Co., Cal., Oct. 1.

Heartiest thanks to you, Mr. Dayton, for your interesting letter. No doubt many of the bee-keeping sisters are doing excellent work in a quiet way, keeping in the background, just as the good sister you mentioned seems to have done. But she has "made good," nevertheless, as you say the best queens you ever received came from her. Tally one for the sisters.

Your wife's exxperience ought to prove an incentive to more women to go into bee-keeping. You say, "she always chose the removal of the honey from the hives as her part of the work, and that part requires skill and judgment which is not so easily picked up." Let me add that aside from that, it is the most delightful part of all bee-keeping, at least to me. One is kept alert and expectant all the time, and it surely is as good as the best tonic, to take off super after super of snowy-white sections.

A Sister's Interesting Experience with Bees.

Although my brother had a nice apiary which he had outfitted with his own hands, and at one time had 2 outlying yards connected with the parent plant at Clovernook, making in all over 300 colonies of bees, I never took much interest in the little creatures until my

Miss F. E. Wheeler.

brother moved into Canada and left the bees here in our cellar to winter, having sold them the previous fall to a party just "over the border."

In the spring when the bees began buzzing in the cellar and crawling out from every crack and cranny into the sunshine, as the owner failed to appear and there seemed no one else to do it, I "braced up," hired a man, and we got the hives out on to the stands in the bee-yard. I remember we took out 50-odd hives and that when "spring dwindling" was over, 36 live colonies existed.

Well, I had a wild time of it that first summer. My zeal far outran my knowledge and discretion. I hired a little boy to wield the smoker, and together we worked in season and out of season over them until we stirred up that yard so that the bees fairly drove us out of it, and they would chase us up to the house and lie in wait around the door to set their stings into the first unveiled nose that showed itself. Their vindictiveness and perseverance is a thing to be remembered. Night after night I rested my swollen arms and hands on the cool sheets after retiring, and gazed upon them pityingly both for myself and the poor little things that paid so sad a penalty for my mismanagement. But, somehow, I never thought of giving up the fight, for I became greatly interested in the work, and so struggled along until fall, when I made a bargain to buy back the entire outfit. And to make this part of my story short, did so in about 3 years from the honey receipts of the apiary.

My brother had caught the bee-fever when some 20 years of age, and outfitted first for comb honey. He had a year or so of very discouraging and sticky experience with the railroads, losing very heavily in damaged combs, so as we are far from wholesale markets—he changed from small to large hives, and arranged his apiary for extracted honey. His first hives were 2 feet long by 15 inches wide and high, and with supers the same dimensions. He found these hives heavy and awkward to handle, and the crops of honey failed to justify his expectations, so he changed again and made the hive which we now use. It is the same width and height as the old one, only it is but 18 inches long. It contains 10 frames and combs, the former being a little over 13 by 14 inches in size. We get from a full comb about 12 pounds of honey.

The honey-house shown in the little picture my brother built. It is a pretty little affair, nestling down on the bank near the river, and the yard is leveled over and kept nice with the lawn-mower. At the time the picture was taken I had 80 colonies. "Faithful Pete," my man, has the barrow, and my brother-in-law, who used to run the extractor for me, is in the doorway.

Our house consists of 2 rooms, 17 feet by 17 feet and 7 feet high, a loft and "lean-to." In the first room is our small arch or stove, where the water is heated, wax extracted, etc. On the left of the doorway as you enter is the big honey-extractor, with 4 baskets and reversible crank. Just beyond, at the side, a little oil-stove alight, which keeps the knives and water hot for uncapping work. Across the back end of this room on either side of the doorway into the inner room are substantial working benches, with fixtures on the walls above for tools, etc. There are 3 windows in this room, 2 at the side and one near the front door over the extractor. The inner room is for honey-storage. Shelves for honey vessels and along the right side on a substantial bench, are 3 fine tin vats, each of 500 pounds capacity, and 2 smaller vats for use in short or

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special runs. There is a window in this room opposite the door.

The loft is stored with hives, especially those made for comb honey, many of which were never used. There must be over a hundred of them. We store our surplus and surplus hives in the lean-to.

I think this is the first time I have ever described in detail our apiary.

My ambition was to run my bees to the fullest capacity of our hives (125), and after the first summer's vicissitudes, when winter set in and the bees were safe in the cellar, I proceeded promptly and with great earnestness to devour everything in the shape of bee-literature that I could lay my fingers on. The old numbers of the American Bee Journal were unearthed very effectually, and pored over.

The following spring began what I've always considered my first real work, the former season having been but a preliminary skirmish. With that experience and my winter study combined, I sailed in to win, and am quite confident that, although we have had some serious backsets, we have made, on the whole, a very fair showing, and today the "Mistress of Clovernook" is more interested in her apiary than in any other branch of her work, or than she has been at any period subsequent to the first year.

There have been poor seasons for honey, and seasons when the calls from other work necessitated neglect of the bees at critical times. I know of no other employment that so emphasizes the Bible warning, "*Now* is the accepted time. *Now* is the Day of Salvation!" If we miss the day that is "just right," it is quite likely never to come again, or to come only to show us what we have lost by not attending to the first one.

I think my bees winter better than my brother's did. I keep them nearer the center of the cellar. We also get along more successfully and more easily with artificial increase. I have got down to 3 frames of capped brood and bees for nucleus, adding extra combs of brood as fast as they can take care of them. W. make our new colonies in the after-

APIARY OF MISS WHEELER.

noon and release the bees the following evening at dusk.

This fall we have been very successful in introducing Italian queens, and, if spared, expect from now on to make our apiary as it should be—the most important feature of our work; white Holland turkeys, Pekin ducks, currants, and strawberries, being "side-issues," although we have over a thousand extra fine strawberry plants set out this fall, and our currant crop this season was 800 pounds. But we hope to do better yet with these same bushes.

(Miss) FRANCES E. WHEELER.

Chazy, N. Y.

[Miss Wheeler and the writer decided to surprise Miss Wilson, who knew nothing about the above interesting sketch and pictures appearing in this number. But she'll be delighted with it all.—G. W. Y.]

Sunflowers.

A British sister, Mrs. Mary Spencer, reports in the British Bee Journal that she planted sunflowers, expecting much from them, but finds no bees but bumble-bees on them. About the same thing occurs at Marengo, as we once found upon having quite a large plot of sunflowers.

Bees and Poultry.

Prof. A. J. Cook says in Gleanings: "I have been successful with both bees and poultry, and I am persuaded that no other line of work will prove better suited to the average bee-keeper than the care of poultry." If that be true of bee-keepers in general, it is probably true in a more emphatic degree of bee-keeping sisters. Whatever the reason may be, the care of poultry throughout the country in general is probably in 9 cases out of 10 in the hands of women. There may be more of the brothers writing about the biddies, but if you go about the country you will generally find it is the sisters who are feeding the chicks, gathering the eggs, and tying hens to posts by one leg to break them of sitting.

But because Prof. Cook, a successful bee-keeper, is a success with poultry, does it follow that his success with poultry is in any way *because* of his success with bees, and that another equally successful bee-keeper would be equally successful with poultry? In any case, it would be interesting if a number of the sisters would tell us something of their actual experience, not merely with poultry, but with any other line in connection with bee-keeping. That ought to help at least a little to tell us what a woman can successfully do in connection with bee-keeping.

Winter Ventilation of Hives

BY C. P. DADANT.

Every now and then, I receive enquiries as to the amount of ventilation necessary for healthy colonies of bees during cold weather. Allow me to lay down the following propositions:

1. Moisture absorbents over the cluster are better than upper ventilation.

2. A slight amount of upper ventilation is better than a tight ceiling impervious to moisture.

3. Entrance ventilation in a moderate degree is needed.

I will now proceed to tell how I came to consider these propositions as correct.

The winter of 1884-5 was one of the coldest that we have seen in this section. For two months or more together the bees were confined to the hive and unable to take flight. For fully two weeks the thermometer did not get above 10 degrees above zero in the warmest part of the day. We had a number of colonies packed with a cushion full of chaff or of forest leaves in the cap, laid right over the brood-frames without honey-board or oil-cloth to intervene. We also had a number of colonies which had a moisture-proof oilcloth over the frames under the cushion. We had in the same apiaries some colonies which had nothing over the oilcloth except the wooden cover, but in a number of cases the oilcloth had holes in it which had been made by the bees, as they will do when the cloth is more or less defective.

Now as to the result: In nearly every instance where the oilcloth was absolutely moisture proof, the moisture had condensed upon the combs at their upper portion to such an extent that when the thaw came, the bees were practically soaked with the melting frost. The hives were in pitiful condition, for not only were the bees dampened by this cold, thawing ice which had slowly gathered over the cluster during the long months of cold, but they were also loaded within their intestines with the unavoidable excrements due to a long confinement. Fully half of the colonies that were found in this condition died within a short time.

The colonies that had holes in the oilcloth were in much better condition. They had suffered from the cold, from having to remain so long in the hive, but their excrements being discharged at the first warm day, the hives became habitable at once, for the moisture had worked its way into the cap, and when it melted the water ran out along the outer edges without dampening the bees. The colonies that were lost in this lot were the weaker ones, and they had died before the thaw came.

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The colonies which had permeable ceilings and absorbents in the cover were in almost every instance found healthy. The moisture had found its way into the soft absorbents, and in some cases we found the forest leaves positively soaked and moldy, where they had been left on for a few days after the thaw. The heat of the hive and of the sun had combined to create sufficient heat to cause this mold.

We can very readily reason out the different results above mentioned. In an ordinary winter the moisture which freezes over the cluster is not of sufficient amount to soak the bees, and when a fairly warm day comes, bee-keepers will notice this moisture running out at the entrance. This is a good sign usually. It shows that the bees are warming up. But when the confinement is of as long duration as during the above-mentioned winter, the moisture is condensed in so large a quantity that it drips everywhere as soon as the thaw comes, and the bees, already lodged with their excrements, are rendered absolutely helpless. ' If absorbents are used, chaff, forest leaves (we give the preference to these because they are handy), shavings, woolen rags, old carpets, etc., there is no loss of heat and yet the hive remains dry. Hence a greater comfort for the bees, which in a bad winter amounts to the difference between life and death.

If an upper ventilation is given, the moisture passes off, but at the same time quite a portion of the heat produced passes out also and only the strong colonies can survive.

Now as to entrance ventilation at the bottom of the hive, everybody knows that bees must have breathing air. If a heavy snow comes, a large entrance will prove useful, for it is less readily obstructed. Loose snow is not to be feared, air circulates through it. But if the snow thaws to a certain degree, the water produced may freeze and tightly shut the entrance, when the colony is in danger of smothering.

A very large amount of lower ventilation will in a measure make up for the lack of upper ventilation or absorbents, but this is had at the expense of honey consumption. I have seen colonies in ordinary box-hives go through a very hard winter without any bottom-board at all, the hives being simply set upon 2x4 scantlings laid flat. But only exceedingly vigorous colonies could stand such conditions, and I have no hesitancy in saying that I would not sleep soundly during winter nights, if I knew that a part of my bees were thus exposed.

From the above, the reader will readily see why I have come to the conclusion that the worst method of wintering bees is to have a narrow, reduced entrance, and an absolutely water-proof ceiling.

Hamilton, Ill.

Helping the Sale of Honey

BY DR. C. C. MILLER.

Dr. G. Bohrer has an article on page 305 that I have read with much interest. I am there asked to read again the article by Rev. R. B. McCain, page 241, which I have done. To be sure, Doctor, he emphasizes the point that one need not fear adulteration of comb honey, and the whole drift of his article is toward making the reader think comb honey a thing greatly to be desired; and the second reading leaves me still thinking your article "a pretty good antidote" to his, leaving the reader of both articles to think, "Well, what good to be sure that there is no adulteration of comb honey, so long as there is danger of harm from eating wax, and a possible danger of poison on the comb, I don't care to eat poison, even in small quantities; so no comb honey for me."

Your second paragraph I have read over a number of times. If I understand you now, "the poison that the bees invariably expel upon the slightest jar or disturbance of the hive," is spread over the bees, and in some way they get it on their feet, and from their feet onto the campings, but most likely it never reaches the honey in the cells at all. I confess this is entirely new to me, and I suspect there are others as ignorant as I, who will, with me, desire to know more particularly how the poison gets onto the bodies of the bees and not into the honey. My first understanding, from your previous article, was that the bees sprayed the poison, although you didn't say so, and perhaps I had no right to make such a guess. What you now say seems to bar out any such view. If I understand you now, the poison is without doubt "spread over the bees" in such a way that there is no likelihood it gets into the honey. I don't see how that would be unless the bees wipe their stings on the bodies of each other. If there is any other explanation, I should be glad to have it.

Your fifth paragraph reads, "You ask me how I know that bees invariably thrust out their stings, and that poison is expelled upon any jar of the hive. In reply I will say that I have seen it so often that I feel fully justified in arriving at such a conclusion." And you seem to wonder that I haven't seen the same thing. Well, Doctor, in the thousands and thousands of times I've seen hives jarred, I never yet saw a bee thrust out its sting and wipe off the poison upon its neighbor's back or feet. It ought to be easily seen if it is constantly occurring, and yet I've never seen it. Not once. If you have seen it every time there was the slightest disturbance of the hive, then it must be that my locality is different from yours, or else I am a very dull observer. If in any way I have a wrong notion as to your view, I shall be glad to be righted, with apologies for my obtuseness.

On page 241 you tell about bees getting onto the combs and not into the honey, and in the next paragraph, if I understand you correctly, you say you have endeavored to give "actual statements * * * * which can bring no harm to the sale of the products of our industry," but on the contrary, along with knowledge about extracted honey, "the sale of honey will increase beyond any demand heretofore known." Now, Doctor, if I have a reasonable understanding of the English language, the one who reads that will understand you to say that an increase in the sale of honey will come from a general knowledge of what you give as facts about poison on the comb, and I asked you on page 270 to tell us *how* this would be. You quoted the question, on page 305, and reply in Italics, "I never said your facts." Well, *I never said you did;* and what you mean by those words in Italics I'm sure I don't know.

I think you must have misunderstood my question, for it isn't like you to dodge a question, and you certainly have given no reply to my question as to *how* there will be an unprecedented demand for honey coming from a spread of your "facts." Instead thereof, after quoting my question, you reply that the pure food law will increase the sale of honey. No one probably will dispute that; at any rate, it is a view commonly current. But what I should like to have you tell us is *how* the sale of honey is going to be helped by spreading your belief. Just now I'm not discussing whether that belief is correct. The whole drift of what you have written is to laud extracted honey and to disparage comb—your very last sentence on page 305 is a fling at comb honey—and I don't dispute your right to do this; but when you say that you are thereby helping to increase the sale of honey, I am anxious to know just *how* a general belief that there is a possible danger of poison on cappings, and a possible danger from eating wax, is going to help the sale of honey by a single ounce. Please give us the answer to that, Doctor.

Marengo, Ill.

How to Secure Good Prices for Honey Even in Years of Bountiful Yields

Read at the Detroit National Convention

BY O. L. HERSHISER.

If an unusually large quantity of any commodity is produced, and is thrown upon any particular market in a lump, the price will necessarily fall, owing to competition and the eagerness of holders to realize on their goods.

If such unusually large quantity of the commodity is distributed in such manner as will supply localities that have had an under-production; or if the disposition of the same is spread out over a considerable length of time, keeping a portion of it out of the market until a season of scarcity, if necessary; or if new markets are created by reason of increased activity in discovering as many as possible of the latent avenues of consumption, directing as it were, the product into new channels, and creating a need where need was before unfelt, there is no need greatly to reduce prices in order to sell the goods.

I wish to apply the above propositions directly to honey-production and consumption. If the apiarist is so fortunate as to have produced a large crop of honey, he should get busy in search of new markets. If his crop is 50 per-

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cent more than he has been accustomed to produce, he has just that 30 percent with which to work up a new market and create a demand that will be of value in years to come. Suppose he has to carry a portion of his crop over to the next year; it is almost as good as money in the bank, and may yield a much larger percentage.

Mr. Mercer, of California, because of unsatisfactory prices, in the year 1903, held his honey until the following year, and thereby realized $1,000 more for the crop than would have been obtained if sold as soon as produced.

When prices of honey are abnormally low, there is no speculation in holding the honey a year or two, and the more bee-keepers there are who are determined not to sacrifice their honey because of a bountiful crop, and low prices, the more stable will the market become.

In the last issue of the Review, editorial notice is made of a bee-keeper who had been offered 7 cents for the best white clover honey that could be produced, laid down in Indianapolis, and that if sold at such price, it would net him but a trifle above 5 cents per pound. I wish to say, that apiarists, as a class, are largely responsible for such market conditions. The jobber is always anxious to purchase goods at as low a price as he can obtain them, for the reason that his profits are correspondingly greater, and because of the lower price at which he is able to sell, he can do a greater volume of business. He sends out offers for honey, and quotes the current jobbing price of 5 to 7 cents, and in most years is able to supply his wants at these figures. Then, not being a philanthropist, why should he give more?

Once in a while there is a bee-keeper who does not figure the expense of cans and transportation, and thinks onesidedly only of the 7 cents per pound he is going to obtain. Rather than take 5 cents net from the jobber, the bee-keeper quoted by the Review, would better sell locally to consumers direct for 7 or 8 cents, and thus save the expense of his cans; and what could not be sold locally, might be disposed of at satisfactory prices by a little well-directed advertising. Personally, I do not believe it ever to be necessary to sell extracted honey direct to the consumer at less than 10 cents per pound. I reason that any lover of honey will supply his needs to the limit at 10 to 15 cents per pound in bulk, inasmuch as 10 to 15 cents is a popular price. Lovers of fresh butter in the cities and villages satisfy their wants at 25 to 30 cents per pound, simply because that has come to be the popular price.

If you have honey to sell, but keep still about it, disposing of it will be slow and tedious. There are various ways of directing public notice to the fact that you have honey to sell. If you imagine that a bountiful crop is to be a burden, remember that the local fairs bring together large crowds, among which are many lovers of honey, who will be as glad to learn where they can get it in its purity, as you are to sell to them. Be on hand at these fairs with an exhibit of bees and honey. Show them how it is extracted, and impress upon the willing listeners that honey-production is your business, and that being a specialist, you are able to produce it of a quality as fine as bees can make it. Allow prospective purchasers to sample it.

Many of you who have exhibited at fairs will bear me out in the statement, that a taste of the honey to a somewhat doubtful inquirer will almost always result in a sale, if the quality is what it should be. Have some attractive cards with your address and an announcement of your business of honey-production ready to hand to all inquirers. Customers gained in this way are likely to purchase of you year after year, and after you have established a trade at a fair price, you will not need to lower it, even if you and others have a bountiful crop. If you think you could take naturally to the temporary occupation of a show-man or sleight-of-hand performer, operate a colony of bees in a cage, *a la* Root, to attract a crowd, and have your salesman ready to sell the honey as the performance proceeds, and while the onlookers are spell-bound.

If you have a good crop, remember that your brother bee-keepers in other localities may not be so well favored. All bee-keepers who have been in the business for years, have a certain steady demand, sometimes reaching into thousands of pounds. They do not wish to lose their trade, and if they allow some other person to pick it up, even for one season, that other person has gained the customers for the future, and you have lost them.

No better advice can be given to bee-keepers who intend to make apiculture a business, and who have had a short crop, than to purchase honey of reliable bee-keepers to carry them over seasons of failure. There is no better way of reaching this class of customers than advertising through the journals. Write up a neat advertisement that will catch the attention of those in need of honey, and have it inserted in two or three of the leading bee-papers for 3 or 4 months, and your honey will be sold with little effort. If you are unaccustomed to writing advertisements that will catch the attention, remember that the publishers are only too glad to help you, or write them for you, and they have a vocabulary well stocked with expressions, words, and synonyms, that will express in the superlative degree the quality of the goods you have to offer. "Smooth, oily finish," "thick, rich deliciousness," and the like, are expressions descriptive of the highest quality, and catch the eye and thought very readily. There is no copyright on words that will beautifully describe your honey, and their use should be freely resorted to—only remember that the statement should be invariably in accordance with the fact, or their use is a positive injury to you, by way of the loss of every customer who purchases on the assumption that your goods are really superior. There is no secret in connection with the production of honey of superior quality. Just leave it with the bees, until thoroughly capped over, or until the end of the season, and the quality will be perfectly satisfactory.

A few bee-keepers have built up a good business in selling honey by canvassing from door to door direct to families. This method is to be highly commended, as it gives an opportunity to educate the public in reference to bees and honey. Having such an excellent food product of his own production, no bee-keeper should hesitate as to the propriety of this manner of selling. I am informed that a number of bee-keepers of more than ordinary business capacity have made a good success of this manner of selling. Never having had occasion to sell in this way, it is largely a matter of theory with me, but I am convinced that customers thus gained will purchase of you year after year. A number of bee-keepers have obtained good results from advertising in their local papers.

There is one thought I desire to impress very strongly upon you. If you have a bountiful crop, do not get panicky about it, and offer to sell regardless of price. It is never necessary to do so. Let bee-keepers be determined to obtain a fair price, and not compete against each other unfairly, and the normal demand will be well supplied. If there is a surplus over and above, for which there is no demand at a fair price, carry it over to a year of scarcity. You will thus have nearly as much money as though you sacrified the whole crop; you will have been spared the real misfortune to yourself of having broken and ruined your market, and you will still have the surplus over and above what is required to fill the normal demand, to supply your market in years of scarcity that are sure to follow.

Suppose a bee-keeper's normal crop is 10,000 pounds, and in normal years the price is 8 cents per pound wholesale, his income from the honey crop will be $800. Suppose he obtains a bountiful crop of say 15,000 pounds, or 50 percent greater than the normal, from the same number of bees. A slight decrease in price in such a season of bountiful crop would be no injustice to the bee-keeper, because the additional expense and labor of producing it is less in proportion than that of producing a normal crop. A slight decrease in price might also be charged to the increased supply, but don't let us ever have a panic because of a bountiful crop, and lose all the latent benefits that nature has showered upon us. If we are to drop the price from 8 cents in the normal year to 6 cents in the bountiful season, when there is an increased crop of 50 percent, we have lost every advantage that was ours, but which has been too often sold for a "mess of pottage." Therefore, I emphasize in the most emphatic manner, that you try not to sell to a glutted or unwilling market, but carry over that which may not be sold for a fair price; and, in the meantime, keep busy in developing new markets and outlets for the increased production. A good rule is to sell where there is an anxiety to purchase and waste no time trying to sell where there is apathy and indifference, and a bearish tendency as to purchasing.

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The good services of the jobber and wholesaler are always to be recognized, and it is certainly no reflection on them to advise bee-keepers to develop their home market, and supply it fully before shipping to the larger centers of consumption. If the home market is fully supplied there will be less honey to be disposed of by the jobber, it is true, but if the jobber's volume of business is thereby lessened he is compensated by better prices and profits on the smaller trade.

I would beg of bee-keepers to avoid the tendency to get into a scramble and cut down the price of their honey to ruinously low figures in order to get the preference of sale away from other bee-keepers. I have but recently been informed of a case where a bee-keeper sent a consignment of comb honey to a commission merchant with instructions to sell for 10 cents per pound if it could be obtained, and for less if necessary to effect a quick sale. There is certainly no profit in producing fancy comb honey at 10 cents per pound, out of which is to be paid, freight, commission, and for sections, comb foundation and labor. The consumer is sure to pay from 15 to 25 cents per section for fancy honey before it reaches his table, and 10 cents for fancy comb honey with charges and cost of supplies out, leaves the producer but a little over 7 cents per section. The difference between about 7 cents and 15 to 25 cents per section, goes to the jobber and retailer by way of trifling expenses and big profits to the non-producer of the goods, by the bee-keeper who is determined to sell whether he makes any profits or not.

Let me urge you, brother bee-keepers, to follow the example and teachings of a few of the craft who have, as far as possible, solved the problem of marketing their product. You have battled against great odds. You have done well persistently to remain upon the firing line until your bountiful crop of honey is safely harvested, but having emerged from the smoke of the battle of obtaining the crop (the smoke from the bee-smoker of course!) do not be satisfied or claim a complete victory until crowned with the full reward of a just and merited equivalent for the purest and most wholesome of sweets—honey—you have provided for the tables of the land.

How I Sell My Honey

BY DR. M. E. MCMANES.

To produce a crop of first quality honey is one thing, but to dispose of it advantageously is another story.

With me as with a great many bee-keepers, the bees are pets, and their care a side-issue, yet if our hobbies can be made a financial success we naturally like them better.

In studying the local market I find grocers do not like to handle comb honey, consequently my first move was to create a demand for extracted. This I did by putting up a first quality article in neat, attractive style, and employing a man to canvass the city thoroughly, calling at every house. I put labels on all my honey, both comb and extracted, and being well known all over the city I instructed my agent to call special attention to the fact that this was a home article from my apiary. As my name was on the label consumers soon called for my honey at the grocers. When I called on the dealers, explaining what I had, and how I advertised it, I had no trouble in getting orders. The result has been that every grocer in the city sells my honey, and very few handle any other.

My comb honey the grocer gets, is always the best I have. All sections must be *new*, well filled and thoroughly cleaned. My name is on every section. This I do by using a rubber stamp and stamping or printing the label on the unfolded section. If more producers would put their names on the sections to show where they *come* from I believe less off-grade honey would be put on the market.

My extracted honey is put up in jelly glasses holding 10 ounces, and retails for 15 cents. I sell them for $1.35 per dozen. The first obstacle I had to overcome was the grocer's argument that 10 cents was the popular price, and that 15 cents would not go. I explained this way: The larger glass costs me but one or 2 cents more per dozen than the 10-cent size; the labels and work are the same, and the consumer gets about double for his money. But the best argument was that the grocer gets more profit, as the 10-cent size costs him from 90 cents to 95 cents per dozen.

My second and last obstacle was the grocer's argument that it is customary to sell honey in bottles. This was easily overcome by the fact that jelly glasses could be used over and over again by the consumer, while bottles were generally thrown away.

That my reasoning was correct is proven by the fact that the local dealers have used over 2,000 glasses and 1,500 sections the present season.

When you sell to dealers don't canvass; and above all don't forget to explain fully how to treat candied honey. Don't think that by saving a few cents on the cost of labels you profit by it, because the more attractive you make your article the better it will sell.

Piqua, Ohio.

Age of Bees—How they Grow

BY G. M. DOOLITTLE.

"I notice that you sometimes answer questions through the American Bee Journal. Will you please tell me through its columns, how long the bee is in the egg form, how long in the larval form, how long in the pupa form, and how long the bee lives after it emerges from its cell?"

Quinby told us in his book, "Mysteries of Bee-Keeping Explained," published about 1865, that the egg, as laid by the queen, hatched in 3 days to a larva; this larva was fed by the nurse-bees 6 days, when the cell containing it was sealed over, remaining thus for 12 days, during which time it underwent the changes of "from caterpillar to butterfly," when the covering to the cell was eaten off and it emerged a perfect bee, being a period of 21 days from the laying of the egg to the perfect bee, making a little allowance for the weather, as very warm weather hastens this development to a limited extent, and cold weather retarded the same.

Always being desirous to know things for a certainty, I conducted several experiments which proved to my satisfaction that Quinby was correct. In one of these experiments I placed a frame of nice, clean comb in the center of a populous colony about May 15, and looked at it quite often till I found eggs in it, which date I marked on top of the frame. In about 2 hours less than 3 days I found 8 or 10 little larvæ hatched, and in 6 days and 1½ hours these larvæ were sealed over. Twelve days thereafter I looked and found these had emerged from their cells, together with probably 100 others from the cells immediately surrounding the cells which contained them. From this trial I was entirely satisfied as to the correctness of Quinby, and continued so to be, till a few years ago quite a noted bee-keeper said that 6 days was altogether too long for the bees in the larval state, he claiming that 3 to 3½ was very much nearer the correct time.

I felt very much like contradicting the statement, but concluded that I would not, as I had made but two or three experiments, and these when it was generally quite cool weather, still I could not think that both Quinby and myself were wrong. So I went to experimenting again, and although the weather was quite warm the result was 3 days in the egg, 5¾ days in the larval, and 11¼ days in the pupa state, making 20 days in all; and 19½ days is the shortest time I have ever known of a perfect bee from the time the egg was laid to the emerging of the perfect bee, no matter how hot the weather was during the whole length of time of incubation. Besides this, I have many times cut out all queen-cells but one from colonies 7 to 8 days after the bees had swarmed, and had the bees build queen-cells over larvæ still unsealed, and when these queens were old enough to emerge, send out a swarm with the queen hatching from the cell I had left or the one I had given them at the time the rest of the cells had been cut off.

I believe it possible where extreme heat occurs during a period of 19 days, for a very populous colony to develop bees in an hour or two more than that; and I have often known them to be nearly 24 days in developing, where it was steady cool weather, and the colony small during the whole of that time; but 21 days is as near the rule as is possible, and can be counted upon in governing all of our manipulations in making "swarms" or colonies, etc., where we need some knowledge of this matter.

The time of the year when the development of brood is most retarded by cool weather is in the fall, and when most accelerated by warm weather is in May and June.

Regarding how long a bee may live, barring accidents, after it emerges from the cell, that all depends upon the time of year when it becomes a perfect bee. If a bee emerges about the first of June, its life will not vary much from 45

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days; if it emerges about the first of October and the colony containing it winters in perfect condition, it is possible for that bee to be alive the 4th day of July next. "How is that?" do you ask? The bee lives just according to its activities, and when it is all hustle and bustle, as it usually is during June, July and August, the bee wears out its vitality and dies of old age in about 1½ months. On the other hand, if this same bee emerged about the first of October, and the colony, through the approach of cold weather, went into that quiescent state so conducive to good wintering, then the bee would remain quiet and almost inactive till the warmth of spring brought the colony into activity, which activity would not be that of summer, on account of the multitude of cool days, with cloudy, stormy weather which always keeps the bees in their hives during the months of March, April and May, in this locality.

Of one thing I am positively certain, which is, that I have had bees that were not born till the last half of September, living on the next fourth day of July. It happened in this way:

I had a colony of black bees to which I gave an Italian queen the first week in September. This queen never laid an egg that fall on account of no nectar coming in from the fields afterward. When the colony was put from the cellar, it contained none but black bees, as this colony did no breeding while in the cellar, even though it was not put out till near the first of May. From this reason I was afraid the young Italian queen was not good for anything, so I kept closer watch of this colony than of others. The next time I looked, there were eggs, and in due time the golden Italians were emerging from their cells. Along about the middle of June I saw that the black bees began to show less and less, and the Italians more and more, so I was curious to know how the thing was coming out.

On the first day of July there were several hundred black bees in that colony, but on the fourth day I was able to find only about a score, while on the fifth day none were to be found. And from very many changes of queens along during the month of June, I have proved just as conclusively that bees which emerge during the summer months live only 45 days. By taking note of the day the last black bee emerged from its cell, and then keeping watch of the hive from the fortieth day on, I found that on the 46th day not a black bee was to be found, while on the 45th day a few hundred were to be seen.

Now while these things have no direct bearing on the dollar-and-cent side of bee-keeping, yet they are very interesting, and tend to rivet the apiarist to his pursuit, and help him to know how to manipulate his colonies when dividing, queen-rearing, etc., so that he will work in perfect accord with Nature's ways, or as nearly so as is possible to carry out the plans he wishes to make.

Then, these experiments will convince any one that the bees which bring in the nectar from the fields are not the ones which build the comb, or deposit it in the sections, or nurse the larvæ; that it is 6 days from the time the bee emerges to the time it takes its flight; that it is 16 days old before it enters the field as a forager, and that after it so enters it does very little of the inside work of the hive for the rest of its life.

A knowledge of all of these things helps the apiarist much in many ways, even though it may count only indirectly on the dollar-and-cents part of our pursuit. I realize that none of us would continue long in the bee-business were there no dollars-and-cents part to it; but while I so realize, I am free to admit, that the real *zest* from bee-keeping has come to me through the knowledge obtained by the many experiments I have conducted.

Borodino, N. Y.

The Eucalypti for Fuel, Timber and Honey

BY A. J. COOK.

I am asked by a bee-keeper in Kentucky to give an article on the Eucalypts. I am glad to do this as I am specially fond of these trees, and I am sure that they have a value that is little understood. It must, however, be borne in mind that these trees come from Australia, a very arid region, and one with a very mild climate. We may be sure, then, that the stronghold of the Eucalypts is ability to stand drouth, and that their weakest point would be inability to endure cold. Here at Claremont, where the orange and lemon thrive well, some species of Eucalypts suffer not a little with the cold. It behooves, then, any one contemplating the planting of Eucalypts, to try them at first in a small way, that he may know whether the climatic conditions of his locality are suited to these trees.

Importance of Timber Belts.

One who travels for the first time in England and France, is surprised at the great number of trees which he observes everywhere. That these conserve moisture and greatly serve to modify climate is certain. We may say that much of Europe is a great park. This is peculiarly true of much of England. This not only makes the country exceedingly beautiful, but the trees make the climate equable, and salubrious, and greatly promote the interests of agriculture. We of the United States, will fall sadly short of our duty and privilege, if we do not see to it and plant liberally of trees. We can not act too soon, that our country shall, like England and France, become one great park.

The Eucalypts are so rapid of growth, and so valuable for fuel, timber and honey, that they should receive attention, wherever they will grow and thrive. Surely, in all the great arid West, where the cold does not press too hard, this tree should receive prompt and generous attention. In the more humid regions of the East, the hardier species should be tried. Our experience with alfalfa should make us quick to act in this matter. We long thought that this was no plant for the Eastern States, but find upon trial that it has great value, in other than warm arid regions.

Valuable Features of the Eucalypts.

To my thinking, there are few more fascinatingly beautiful trees than these Eucalypts. Their drooping, beautifully-formed foliage, showy blossoms, curious fruit, careless, yet graceful habit, and often long straggling trunk and branches, make them the gems of any landscape that is marked by their presence. One of my artistic friends, noted for her esthetic taste, says that no other tree is more beautiful, or lends itself to adornment more satisfactorily than does this gift from Australia. I think she is quite right. There is just opposite of my house a manna gum, Eucalyptus viminalis, which has become very dear to me. There are several hard by, and I treasure them all as precious possessions. In the moonlight they are graceful and fascinating beyond compare.

Again, the great number of species, makes it possible, by careful selection, to secure timber or lumber of any desired quality. The trees grow, when planted thickly, so straight and tall that they are admirable for masts, and other like uses, where long timbers are desired.

Perhaps the greatest advantage we gain in these trees is their resistance to drought. Coming as they do from an arid clime, they stand a prolonged drought, and so in regions like Southern California and Arizona they will thrive and grow rapidly after the first year, with no care at all. This characteristic is very encouraging, as the growing of the trees is a matter of no small profit, and so the trees will be more and more planted, and, as we have seen, this is very desirable from the stand-point of general economy as well as direct profit. We need more trees, and the Eucalypti will tend greatly to fill this need.

Eucalypts for Bee-Foliage.

We must not neglect to speak of the value of the Eucalypts as trees furnishing bee-forage. These trees come from the southern hemisphere. When we bring them here, they tend from inheritance to bloom in winter. Of course their new environment tends to bring this blooming season in late spring and early summer. As a result, we may gather the bloom almost any month of the year.

If we may judge from the way the bees visit the bloom, we may conclude that nearly all furnish nectar, in good quantities. Of course, as many blossom in seasons when there are few bees, as do the willows and soft maples of the East, we may conclude that they are not of any great value in the real harvest, but they are valuable in stimulating breeding. Some of the species may give much honey after we put on the supers. It is not true that the honey is tainted by the oil of the plants, and we may be sure that is never true of nectar.

The only discount of the Eucalypts is the fact that they are impatient of cold. While some of the species are more hardy than others, none of them are proof against severe cold. For this reason, any one contemplating planting these trees should know from actual observation that the locality is suited to their requirements, before planting more than in an experimental way.

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The Varities to Plant.

The blue-gum, E. globulus, has been much planted in California, and is handsome, hardy against frost, and a very rapid grower. It does not stand the heat as well as the two species next to be mentioned. It blooms from January to May, and the timber is very tough and strong. It has been grown more in California than any other species, but does not do well in the very hot valleys.

The red-gum, Eucalyptus rostrata, resists dronth and heat much better than the blue-gum, and stands even more cold. It does not grow to be as straight or as rapidly, but the wood is hard and fine. I think it will prove to be one of our most desirable species to grow and cultivate.

Eucalyptus rudis, as grown at Fresno, is a fine tree, and bids fair to equal any of the species in the colder regions or the hot dry valleys.

The sugar-gum, E. corynocalyx, is a fine tree in Southern California, though rather slow of growth, and feeble against cold. The wood is hard and fine, and it blooms in late summer.

The manna-gum, E. viminalis, is a fine tree, beautiful to look upon. I think much of it. It is as hardy as the red-gum, I think, but the wood is not equal to either the blue or red gum, though it grows rapidly, and the wood answers well for fuel. Like many other of the gums, it sheds its bark, and so needs some care to keep the street tidy where the tree is planted.

E. ficifolia and E. sideroxylon, have colored blossoms, and are very showy. The wood of the last is very hard and fine, and the foliage is specially beautiful.

Claremont, Calif.

Conducted by LOUIS H. SCHOLL, New Braunfels, Tex.

Caucasian Bees—Their Good and Bad Qualities.

I have not seen much pro or con of late in the "Old Reliable" about the good and bad qualities of the Caucasian bees, and it seems that the most reports are "con." It will be remembered that I reported through the columns of this paper last season, of what I had learned good or bad of these bees, after having tried them two seasons. Now I have had another season's experience with them more extensively, and as it has been a good season, they have been well tested, and that in 7 or 8 apiaries, and along-side other races of bees, and also their crosses tested.

In addition to the good qualities, viz: gentleness, good comb-builders, prolificness, etc., which have already been brought out by those who have tested them, permit me to say that they winter well, rearing a lot of young bees during cold weather and spreading brood rapidly in very early spring, which makes them very desirable in late springs and in locations where the honey-flow comes very early.

The Caucasian colonies were so highly populated at the beginning of the honey-flow early in the spring that I became somewhat nervous over the thought of their swarming, but I continued to give them extracting supers, the frames of which contained full sheets of foundation, as they needed them during the flow, and kept a watch on the brood-chambers for queen-cells. To my glad surprise less than 10 percent prepared to swarm, while of the Italians side by side with them in the same apiary, under the same conditions, a larger percent did make preparation to swarm and re-swarm.

I do not know what these bees would do in the production of section comb honey, as I have tried them only in a very limited way in this particular, nor do I know what they would do in this particular confined in a small hive, or their queens confined under excluders. But turned loose with plenty of proper room, I have every reason to believe that these bees excell any of the other races of bees.

There is another thing noticeable about the swarming of those bees, and that is the swarms cast are very small, so much so that the progress in the supers is checked but very little if any.

Another good feature about them is that they supersede their queens readily and often.

There is a bad quality about them which will prove to be a good one to the average bee-keeper in the South, and that is their so-called over-production of drones. It is a fact that the good stock in our apiaries is endangered by drones flying from inferior stock from every direction. This will have a tendency towards repelling this undesired race of bees, and it is the surest and easiest way this problem can be solved.

As honey-gatherers the Caucasian bees have proved to be a little superior to the other prolific races. They make more rapid progress at the beginning of the early spring flow, and store longer at the close of the season, and hold their own well during the season.

Their bad qualities are few and overbalanced by the good ones. The greatest of these is the gathering of bee-glue during a honey-dearth near the close of the season. This bad feature has been brought out time and again, but they bring th's very sticky substance in in their pollen-baskets, and place it about the entrance as if they expected to close their doors at the end of the season. But if the glue is removed when they are put in for winter it will not have to be contended with until the close of next season.

Another objection to them is that they rear too many drones, and they do this all during the season. They rapidly disappear at the close of the honey-flow, but a cluster of them will be found huddled up in some corner of the hive as if in this way to protect themselves during the bees' working season, and during winter when they will be found on the outskirts of the cluster, but not in large quantities. I notice some colonies are far more prone to do this than others, and no doubt the over-production can be bred out of them.

Another objection to them is that they build too much burr and brace comb. I have not been bothered with this much, and I think it can be overcome to a great extent by keeping the bees supplied with the proper room. I have crossed them only with the German and Italian bees. They transfer to the Germans their gentleness and honey-gathering quality during the early part of the season, but when nectar is scarce they do not compact their brood, and to some extent slack up honey-gathering, but they give the honey as good body as the pure stock does, and are very desirable bees.

Their cross with the Italians is not much improvement over the Italians, except that they are better comb-builders and fill the comb near the bottom of the sections and extracting comb better. But the first cross is cross, and for this reason not so desirable.

The first cross with the golden Italians makes a beautifully banded bee. All the bands show the gold and the steel which is a very brilliant color. It must be remembered that the Caucasian bees have been imported only a short time, and we might not expect them to be in every particular just what we desired. A little breeding may be necessary.

Crisp Co., Ga. J. J. Wilder.

Honey as a Health-Food

This is a 16-page honey-pamphlet intended to help increase the demand for honey. The first part of it contains a short article on "Honey as Food," written by Dr. C. C. Miller. It tells where to keep honey, how to liquefy it, etc. The last part is devoted to "Honey-Cooking Recipes" and "Remedies Using Honey." It should be widely circulated by those selling honey. The more the people are educated on the value and uses of honey, the more honey they will buy.

Prices, prepaid—Sample copy for a 2-cent stamp: 50 copies for 90 cents; 100 copies for $1.50; 250 copies for $3.00; 500 for $5.00; or 1000 for $9.00. Your business card printed *free* at the bottom of front page on all orders for 100 or more copies. Send all orders to the office of the American Bee Journal.

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Conducted by J. L. BYER, Mount Joy, Ont.

Long Drouth in Ontario Unbroken.

The prolonged drouth in Ontario remains practically unbroken to date (October 22). Since August 5th there has been only one rain of any importance. I doubt whether things have suffered much so far, from a bee-keeper's standpoint. Clover (alsike) was a good "catch," seems to be deeply rooted, and is at present looking well. Very little fall wheat has been sown, and as this is generally the best cover crop for clover seeding, the limited acreage may mean less clover for 1910. But that date is entirely too remote to be borrowing trouble over, so at present we refuse to notice anything but the good prospects for 1909.

A Good Fall Bee-Feeder.

Recently, while at Mr. J. McGillivray's, in Ontario, I was shown a feeder that struck me as being very handy and being possessed of some features that would commend it for use in the fall when large amounts of syrup have to be given for winter stores. Built on the principle of the Miller feeder, it differs from the orignal, in that there is no permanent cover, a wire screen being used on top instead. If more feed is required it can be poured through the wire-cloth and no bees can fly up, and at any time it is easy to see what progress the bees are making in storing the syrup. On top of the screen a quilt or board can be laid, and if the weather is cool a cushion can also be put on, so that the heat is better conserved.

Feeding Sugar Rather than Honey for Winter Stores.

In giving directions for preparing sugar syrup for winter stores, Editor Root in Gleanings, says, "But some will ask, 'Why not feed honey?' A good article is too expensive and a cheap honey is dear at any price."

The "reasons" given are valid, but, Mr. Root, you might have added, "Unless *absolutely* sure of the source of honey to be fed, there is great danger of developing foul brood." Perhaps some will think that the writer is a crank on the subject of foul brood, but from a number of cases that have come under my notice, I feel justified in saying that it is very *risky*, if not dangerous, to advocate the feeding of honey. No later than last spring an extensive bee-keeper wrote me saying:

"A few years ago I had foul brood among my bees, and by thorough work had eradicated the disease. Last fall I was foolish enough to buy some cheap honey and mix it with the syrup for winter stores, and while I felt sure that there was no foul brood in the apiary said honey was produced in, now I find nearly all my colonies are dosed."

Needless to say there is not much likelihood of that man feeding much honey to his bees for some time in the future. Some say that in giving combs from one colony to another amounts to the same thing, but the cases are much different, as in the case of extracted honey; it may indeed be a little leaven, leavening the whole lump, as the honey from one foul colony may contaminate many pounds with the foul-brood germs.

Bees Well Supplied with Winter Stores.

Bees throughout Ontario, according to many reports received, are going into winter quarters in splendid condition. This is the case particularly in sections where there has been a fall flow of honey. In our own apiaries, the clusters are fully one-third larger than they were last fall. Other conditions being equal, this should mean good wintering, as especially for outdoor wintering I like to see good, populous colonies. For cellar-wintering it may be all right to rob the colonies in the fall of their old bees, but for outside, I would take no chances. Anyway, I have an idea that in moving the colony off the old stand, as advocated by some, that quite a few bees that are not *old*, are sacrificed. This idea of "Oslerizing" the old bees in the fall of the year is not new by any means, as some 12 years ago a number of Ontario bee-keepers (Jacob Alpaugh among them, if I am correct) were practicing the plan in a limited way. Of late years I have heard little about it, so quite likely there is "nothing doing" at present.

Cellar vs. Outdoors for Bees in Winter.

Winter is coming again, and with its advent many will be debating how to winter their bees. While cellars are preferred by some and the outdoor system by others, it was the writer's privilege to run across one bee-keeper this summer who winters his bees, some 50 colonies, in a room adjoining, and connected by a door with, the living-room occupied by the family. The bees had wintered in splendid condition, and the results would seem to prove, in this instance, at least, that a high temperature is not detrimental to the bees.

Asked as to whether the bees were noisy, Mr. Snelgrove replied that everything was quiet till the warm days of March, and then they were lively. Precautions were taken to darken the windows, but no other preparation was given to the rooms. Mr. Snelgrove intends to winter the bees in the same place this season again, and the results will be awaited with interest.

Relative to the subject of cellar versus outdoor wintering, it is an undeniable fact that there is a tendency here in Ontario towards more bees being wintered outside than has been the case heretofore. Whether this change is to be permanent or not remains to be seen. Certain it is that quite a few extensive bee-keepers that the writer is acquainted with, have signified their intentions of changing from cellar-wintering to the outdoor method.

Do Dark Brood-Combs Affect the Color of Their Honey?

Is honey extracted from dark brood-combs as light in color as that extracted from white combs in which no brood has been reared? Mr. Chapman, of Michigan, says there is no difference, and he ought to know, for certainly he produces lots of honey. In a private conversation with him at Detroit last week, he was quite emphatic on this matter, while the writer felt inclined to disagree with him, i. e., as far as the *first* extracting out of a dark comb from which brood has recently emerged, is concerned.

I have taken the pains to ask the opinion of a number of prominent bee-keepers who exhibit honey at fairs, and without any exception they say that the honey from the brood-combs is darker, and that for exhibition purposes they are always careful to extract only from new white combs. Certain it is that if these old brood-combs are filled with water and then given a whirl in the extractor, the resultant product is not "water white." Whether the bees eliminate this coloring matter before putting honey in the cells, is another question, but I very much doubt that they do so.

"The Honey-Money Stories"

This is a 64-page and cover booklet 5¾ by 8½ inches in size. Printed on enameled paper. It contains a variety of short, bright stories, mixed with facts and interesting items about honey and its use. It has 31 half-tone pictures, mostly of apiaries or apiarian scenes. It has 3 bee-songs, namely: "The Hum of the Bees in the Apple-Tree Bloom," "Buckwheat Cakes and Honey," and "The Bee-Keeper's Lullaby." It ought to be in the hands of every one not familiar with the food value of honey. Its object is to create a larger demand for honey. It is sent postpaid for 25 cents, but we will mail a single copy as a sample for 15 cents, 5 copies for 60 cents, or 10 copies for $1.00. A copy with the American Bee Journal one year —both for 80 cents. Send all orders to George W. York & Co., 118 W. Jackson, Chicago, Ill.

American Bee Journal

By W. A. PRYAL, Alden Station, Oakland, Calif.

Sapolio vs. Propolis.

Some time ago I complained of the persistency propolis has in staying with me when it got on my hands. I tried almost everything I could think of, or had heard of, to eradicate it, but it was always a hard and tedious job. A reader of the "Old Reliable" in Iowa, a Mr. A. L. Dupray, wrote me to try Sapolio, the scouring sort. I have; 'tis good, especially if a little kerosene—any anti-trust kind possibly will be the best—is rubbed over the hands first. This is not an advertisement, but I hope the makers of the soap will consult their interests and advertise their wares in the American Bee Journal.

Getting Things Wrong.

California is looked upon by outsiders as a sort of wonderland. To us folk here it is not considered so wonderful, though we all consider it the best place in the world to live. Having a few wonders of ancient lineage, and occasionally a few of right-now origin ("big squash," for instance), the world beyond our border has come to believe that every other thing met with here is something grand. We wish they were. Then, there are people who, hearing that one man has a certain remarkable thing—be it a fruit, vegetable, house, horse or goat — forthwith proclaims that every thing else of like character in the State is remarkable, too. And some of our papers and promotion committees are slightly to blame for this misunderstanding.

But there is no excuse for an author promulgating a statement entirely at variance with the facts. Sometimes this is done through iguorance, but certainly that's no excuse. I find in casually looking over what is probably the best printed work on bees that has been issued from the press of this country, this statement: "In California instead of boards a thatched roof is made." The writer was considering shade for colonies of bees. I have yet failed to find any thatched roofs over our apiaries, though some may be found along the rivers, where hives are huddled together on stilts, against floods. Then the matter of such roofing is not so costly a matter. But imagine an acre of hives thatched over.

Alfilerilla.

This is undoubtedly the best of the early winter flowers for bee-forage that comes into bloom from plants that entirely made their growth since the first rains at the close of fall or at the beginning of winter, excepting, sometimes, wild turnip or mustard. It rushes into vigorous life almost with the same rapidity as the marsh-mallow, and it soon makes excellent pasturage for stock which feed on it with avidity, and it is reported rich in nutriment. It continues to bloom over a longer period of time than most honey-secreting plants found upon the Pacific Coast, and it does not die with the approach of dry weather.

It is not known when this plant was brought to California; it is believed it was imported by the early missionary padres long before the advent of English-speaking people to the coast. The most common names for the plant are Alfilerilla, or Filaree, or pin-weed. Some call it pin-clover, but it is not a member of the clover family. Botanically it is Erodium, and was so classed by L'Heritier, a French scientist who flourished near the close of the 18th

ALFILERILLA OR PINWEED.

century. The plant is found along the northern Mediterranean even into Asia, where it is believed to have had its first home. In Europe it is often referred to as Heron's Bill or Stork's Bill, and in this country it is called Crane's Bill. It is related to the geranium family. So, taking it all together, it is a plant of many aliases—a sort of wandering botanical hobo.

Wilhelm Miller, editor of the "Garden Magazine," states that there are some 50 widely scattered species of Erodium, but I am able to find reference to only 4 varieties in California; Prof. Volney Rattan mentions 4, in his "Popular California Flora," and Miss Alice Eastwood, of the California Academy of Sciences, in her "Flora of the Pacific Coast," notes but 3.

The widest distributed variety is *E. cicutarium* or Red-stemmed Filaree. The green-stemmed variety, *E. moschatum*, has a faint odor of musk and is a more luxuriant grower than the preceding. A white-petaled sort is occasionally seen; the ones named are purplish-pink. It is a safe plant to cultivate for bee-forage; while it is self-seeding, it is easy of eradication. Being so closely related to the geranium, it is rather tender, though I have never seen it nipped by frosts which we occasionally have in nearly all parts of California during winter. While it might not be possible to introduce the plant into the Northern States, there is no doubt but it can be grown in that portion of the Southern States bordering on the Gulf. It has already been introduced into Arizona and Texas, where it is now quite common, I believe. The honey is light amber, at first rather rankish in flavor, but later pretty fair. It soon candies.

Railroad Freight-Rate Extortion.

It was some little time back when I saw in one of the papers a telegram from Reno, Nev., stating that the honey-producers in the neighborhood of Lovelock were making charges against the railroad company for discriminating against them in the matter of freight-rates; that an unjust rate was in force on honey. It was alleged that honey shipped from Lovelock to Chicago costs $1.10 for each 100 pounds in carload lots, while from San Francisco to Chicago, 400 miles greater distance, the rate is 85 cents less than the shorter haul. The matter was to be considered by the railroad commission, but I have not heard what the outcome has been. It surely should be in the interest of justice.

Eucalyptus Honey.

I suppose at some time or another you have had that desire to "take your pen in hand" and write about something you had just seen, or something wrongly stated that you wished to correct. I know I've had, and the feeling has oft come over me when I have seen something published about how things are done in California, and the writer shot far wide of the mark. These misstatements are often made by Eastern writers who are not fully conversant with things Californian.

This observation has been started between my brain and my typewriter on reading Dr. Miller's paragraph on the eucalyptus, in Gleanings not long ago. The Doctor's afraid eucalyptus honey will contaminate all our honey, should we have these trees blooming the year around. Don't be afraid, Doctor. These

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trees are not going to be that plentiful; we may have some when the main honey-flow comes from sage and other choice sources, but our most common gum-trees bloom at times when other honey-secreting flowers are scarce. It appears to me we will never have any varieties in numerous numbers other than those we already have, although 100 varieties have been planted here for experiment. Now, none of them interfere with our choicest honey. And so far as I have been able to notice, I do not see that our California eucalyptus honey is a bad article.

What makes the good Doctor think that this honey is going to be so damaging to the other honey? Don't think that because the peculiar climate of Australia causes the gum-trees there to produce a dark and strong-flavored honey, the same condition will prevail here. Of course it might be supposed that such would be the result. But I am not so pessimistical; I have not yet seen any honey injured by gum-tree honey, neither do I think it possible for any injury to be inflicted, as I have already stated.

So far as I have seen, what eucalyptus honey we have been able to get, has been pretty fair; seldom is it any darker than other honey produced at the same period of the year. But as for me, give me more gum-trees, even if the honey therefrom should be a little dark. We will be getting honey from where we had none before; besides, we will be growing valuable wood, for fuel and lumber.

Uniting Colonies of Bees.

I saw a man (can't call him a bee-keeper) once try to unite two colonies; he dumped the bees of a weak colony in front of another one that was almost equally deficient in strength, hoping that when the added bees entered the other hive he would have a rip-roaring colony. But he worked rather backward, for the two sets of bees got to fighting and the loss in dead bees made the colony no stronger than it was at first; it was worse in one respect, for they became an ugly lot of bees to handle. Some scented water to spray the bees with is excellent. Manage to shake both lots of bees in front of the hive you wish to retain and spray the bees with the perfumed water. Some use sweetened water, or diluted honey. Don't; it is likely to start robbing. Flour even may be used with good result, especially if some scented preparation has been mixed with the flour. A nice, decent odor will often cause the bees to be on good terms with strangers even of their own kind, as they are believed to be to strangers outside the hive.

Perhaps this is why the cleanly bee-master is unmolested, while the hobo and the darky whose personal odors are anything but inviting, are set upon by the bees. And the perspiring horse gets more stings than the sleek one. That nasty little rascal of malodorous scent, the skunk, possibly utilizes his obnoxiousness in coaxing the bees to come out and sting him, and in doing so they fall into his trap, which I shall mention hereafter.

Report of the Chicago-Northwestern Bee-Keepers' Convention.

(Continued from page 309.)

EXHIBITS OF BEE-FIXTURES.

"Can not some more definite arrangement be made for an exhibition of utensils, etc., at the next meeting?"

Dr. Bohrer—I believe every State should have a museum where bee-keepers' supplies and methods can be on exhibition all the time. Kansas has a fine place. We should have a room in the Capitol for exhibition. Let it be a school—a place of general information. A great many more would engage in bee-keeping if they knew how to begin, what to use, and where to get it.

Pres. York—Very few people would ever see an exhibition at Springfield. A State Fair is a good place. Chicago might be a good place. But go to Root's and Mr. Arnd's here in Chicago.

GASOLINE FOR FOUL BROOD.

"Is gasoline a good remedy for foul brood?"

Mr. Wheeler—In regard to this gasoline question. It is quite a point, worth our experimenting with, at least. A man was telling me his experience. He thought by dipping the combs in gasoline, then taking them out and letting the gasoline evaporate, it would kill all the germs.

Mr. Moore—This thing has been discussed. It is not new. This is the proposition: Take a cupful of honey, and down in it somewhere is this germ of foul brood. How long would you have to apply the gasoline to destroy the germ. You never can destroy the last germ, until you have disolved every drop of honey. It is absolutely visionary to attempt to cure foul brood by formaldehyde or gasoline methods.

Mr. Wheeler—He meant only empty combs.

BEE-DEMONSTRATIONS AT FAIRS.

"Would it be beneficial to the industry to make demonstrations of management of bees at State Fairs?"

Dr. Bohrer—Not to practical bee-keepers. Simply to other people for the sake of research.

Mr. Wilcox—Our State Fairs and Exhibits are willing to appropriate money to promote an industry. The question asked is: Will bee-keepers be benefited by paying an amount to make such demonstrations? It is a question that has been referred to me, and I would like to hear any definite opinion on the subject.

Dr. Bohrer—If the demonstrations are made by a man of ability, I have no doubt that they would be profitable. He should explain *why* he does things, and not claim to be a wizard, etc. If they will give scientific talks it will be profitable.

INCREASING CONVENTION ATTENDANCE.

"How can the attendance of our meetings be increased?"

Dr. Bohrer—Every one should consider himself a committee of one to get one member, at least.

Mr. Whitney—Increase the degree of prosperity.

Mr. Wilcox—Increase the invitations by circular letters.

Dr. Bohrer—Increase the spread of bee-literature. I will not under any circumstances in the future insist on buying a colony of bees when a man knows nothing of bees. Make sure that he knows something about bees before engaging in bee-work. Don't encourage the man who knows nothing about bees. Get people to read bee-literature. Train the man and then let him keep bees.

Mr. Moore—I must go directly against Dr. Bohrer. By all means get one colony of bees. Bee-keepers as a class are the best class of people in this country. They are nice clean people, and good citizens. I feel that bee-keeping lifts men up from mere money-making. Nature study is a great thing. As to circulars, etc., we spent $35 for letters to people all over several States. About a year and a half afterward we get $30 back.

Mr. Whitney—I have sold bees to people who don't know a thing about them. But I find whenever I meet them that they have a bundle of bee-papers under their arms. They are studying up.

Mr. Lyman—My experience in selling bees is that I first get the money, and after a while I get the bees back again.

MAKING HONEY-VINEGAR.

"What is the best method of making honey-vinegar?"

Mr. Wilcox—Can honey-vinegar be profitably made from honey?

Mr. Taylor—I think not.

Mr. Arnd—It is not profitable, as you can not get enough money for it.

Mr. Moore—There is no demand for honey-vinegar. It is hard to work up a demand. Cross & Blackwell's vinegar brings $1.00 a gallon, or 25 cents a quart. Cider vinegar brings 60 cents.

Dr. Bohrer—I can not find a sale for my vinegar.

Mr. Moore—The market is bare of pure cider vinegar. There is too much cheap stuff on the market.

Dr. Bohrer—You can not make good cider vinegar out of poor apples. There is too little sale to advise making good vinegar.

Mr. Arnd—I suppose the best method

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for a bee-keeper is just to take the honey that he has and mix it with rain-water—about a pound to a gallon. You can start it with yeast or with "mother," and let it ferment in the old way. It takes about a year. But a quick process may be used. To get good, sharp vinegar you should take 2 pounds of honey to a gallon of water. This vinegar will keep, I think.

CHAFF HIVES VS. SINGLE-WALL HIVES.

"Are chaff hives better than the regular single-wall hives, the year around?"

Mr. Taylor—I wouldn't have a chaff hive at all. There is no advantage that I know of, and there are great disadvantages in the bulkiness in handling the hives.

Mr. Whitney—For out-door wintering there is nothing better. Made of thin stuff they are as easily handled as the dovetailed hive. There are many advantages, I think. I have used both, and like the chaff better.

WINTERING BEES OUTDOORS OR IN A REPOSITORY.

"Is it better to winter bees in chaff out-doors or in a special repository?"

Mr. Taylor—In this locality it is better to winter in a repository. It is a saving of stores if you winter bees in the cellar.

Mr. Wilcox—It is a saving of the life of the bees. I don't winter them successfully out-doors, but do in a special repository.

Mr. Whitney—I winter bees out-doors successfully. Perhaps if I had a good cellar I might use it. But it is a double-walled chaff hive that I use. I have had no trouble. As to stores, I don't know whether they take more or not. Some one says that they take less stores outside than they do inside.

Mr. Taylor—I have experimented upon that point for several years. I weigh my hives when I carry them in, and when I put them out, and those that I winter out-doors I weigh the same way. There was quite a difference in the consumption of stores in the colonies in the cellar and outside. Bees wintered in the cellar use an extremely small amount of stores, sometimes only 3 pounds; from that to 8 or 9. There was one time when they didn't winter very well, that they used considerably more in the cellar. As a rule, they don't use more than half as much indoors as out.

Mr. Whitney—Out-door wintering gives the bees an opportunity for a flight. That is very favorable. Perhaps that counteracts the larger amount of honey used.

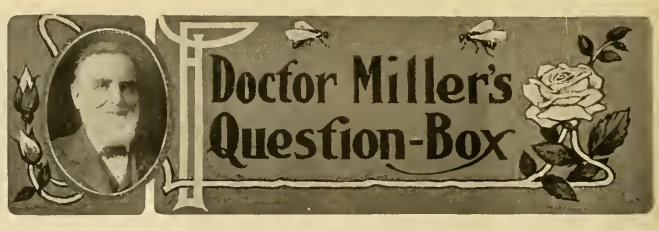
(Concluded next month.)

A Big Combination.

We offer The Garden Magazine ($1.00), Farm Journal 2 yrs. (25 cts.), and the American Bee Journal (75 cents)—all three one year for only $1.50. This is a fine opportunity to get 3 good papers for a very small sum. Address all orders to the office of the American Bee Journal, 118 W. Jackson, Chicago, Ill.

Apiarian Pictures

We would be glad to have those who can do so, send us pictures of bee-yards, or of anything else that would be of interest along the bee-keeping line.



Send Questions either to the office of the American Bee Journal or to
DR. C. C. MILLER, Marengo, Ill.
Dr. Miller does *not* answer Questions by mail.

An Appeal to Questioners.

It sometimes happens that a correspondent asks a question relating to something appearing in a previous number of the American Bee Journal, but gives no hint as to where it may be found. Either he thinks that I am an omniscient being who has in mind, like an open page, all that has ever appeared in print relating to bees, or else he thinks it fine entertainment for me to leaf over a hundred or more pages to find what he is talking about. It so happens that I am not omniscient, and however entertaining it may be for me to go on a still hunt for the thing he has in mind, the limited amount of time at my disposal hardly allows too much indulgence in that direction.

Just within a few days, one correspondent asked a question referring to something in a previous number of this Journal. It would have cost him very little to have mentioned the page, but it cost me no little time to look over, and more or less read over, quite a number of pages before finding what he referred to.

Another correspondent had some questions about a certain plan—let us call it the Jones plan. Now I hadn't the slightest idea what the Jones plan was, whether he had seen it mentioned in the American Bee Journal or some other bee-paper, or indeed whether it had ever been mentioned in print. I might have written him to inquire, but unfortunately he failed to give his address. Although real names are not often printed in this department, it is probably the rule in almost all publishing offices that a communication without real name and address goes into the waste-basket. It would have cost him little trouble to give name and address, and still less to have given the page he referred to.

My appeal is that number of page be given whenever any item in print is referred to, and also that name and address be given, although the latter will not be published.

C. C. MILLER.

Perhaps Swarmed Out—Feeding Bees for Winter.

1 bought 9 colonies of bees in February and April. I did not get them transferred until May 12, on account of my bee-goods being lost in freight one month. I was therefore out the best month in this locality and this year for starting them.

One of my colonies stored 30 to 40 pounds of fine honey, but the others refused to work in the supers at all. I examined all the colonies September 2. About half of them have honey in the frames, and about half have worked out only about 5 frames out of 10, and have very little honey in the combs. All have more or less young bees. I have 10 colonies. I had 12, but the moths got 2 of them. I bought 5 queens and introduced them about August 1. One of the colonies that died was a July 1st swarm, and the other was one of my best at the start, but it swarmed and left very few bees in the hive, and I think left no queen. Is that possible? Advise me if you know of anything to tell me to do. These are my first bees, and I am anxious to bring them through the winter. Shall I feed all sugar in the fall, or shall I try to feed the weak ones in the brood-chamber when they go in for winter? I will winter them out-doors.

TENNESSEE.

ANSWER.—It is possible that your colony swarmed out and left no queen in the hive. At any rate, such cases have been reported. It doesn't matter so much how you feed, so that you make sure that each colony has plenty of sugar syrup for winter. As far south as Kentucky you can feed pretty late, but don't put it off too long. Better get all the feeding done before the bees are ready for winter quarters. If you have trouble about feeding the weak ones, you can feed an extra amount to the strong ones, and then draw from the strong ones sealed combs to give to the weak ones. But are you sure you ought to have any weak ones? Would it not be better to unite until all are strong? It is better to unite two in the fall and have one the following spring than to have both die in the winter.

Hive-Entrance the Long Way—Invertible Super—Foundation Splints—Jumbo Hive.

1. What do you think of having the entrance the long way of the hive, 7⅝-inch high, during the honey-flow? Did you ever try it?

2. Why wouldn't it be a good plan to have the super so that you could turn it over? Wouldn't we get better filled sections?

3. Where can I get splints the same as you use?

4. Have you used the Jumbo hive since the time you mention in your book?

MASSACHUSETTS.

ANSWERS.—1. If you mean to have the entrance the long way of the hive, and that the only entrance, I shouldn't like it so well as to have the entrance the usual way, because the latter allows freer entrance of air. In Europe it is quite common to have the entrance as you describe. That's called the "warm arrangement," and the frames running at right angles to the entrance (the common way here) is called the "cold arrangement." I never tried the single entrance at the side, but have practised quite largely having the entrance on all four sides. I like it much, but now have only the one opening 2 inches deep, as being in the long run more convenient.

2. Supers have been made to use in that way, but have never come into general use; perhaps because the advantage did not pay for the extra trouble.

3. The A. I. Root Co., Medina, O., make them, and perhaps you could get them from any dealer in bee-supplies.

4. No; I didn't care to give it further trial after I found I could not rely on it to prevent swarming.

Caucasian Bees—Requeening — Rearing Breeding Queens—Cutting Cells to Prevent Swarming.

1. Are the Caucasian bees as gentle and as good honey-gatherers as the Italians?

2. What is the best time of the year to requeen?

3. Will I have to kill the present queen and drones, and cut out all the queen and drone cells in the hive, before requeening?

4. How long will a colony have to be queenless before introducing a new queen?

5. Tell how to manage it to rear queens for breeding purposes.

6. When cutting out queen-cells to prevent swarming, will it be necessary to cut out all queen-cells or leave one to help out the old queen?

7. How often will I have to look for queen-cells?

I am a beginner in the bee-business.

NEBRASKA.

ANSWERS.—1. The Caucasians were heralded as the most gentle of all bees. No doubt some of them are; but others are reported as being no gentler than Italians. Not as much has been said about their gathering ability as their gentleness, and it is hard to say just yet what their status will be in that particular. They are still more or less on trial.

2. There is perhaps no better time than during the honey harvest. Yet circumstances

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may make it advisable to take some other time. For instance, if you want to change your stock as rapidly as possible, instead of waiting till next harvest, you will get a new queen this fall or next spring, so that you can begin breeding from her as soon as next season begins.

3. No need to kill the drones in any case. The old queen must surely be out of the way before a new one can be liberated in the hive. Not absolutely necessary to cut out queen-cells, but it may be safer.

4. Not more than 2 or 3 days. Oftener the queen is removed at the same time the new queen is put in, but the bees are not allowed to get at the candy for 2 or 3 days, and the old queen is removed at the same time the bees are allowed to get at the candy. In most of my introducing the past season, I removed the old queen upon first putting in the new queen, the latter being a fast prisoner in the cage, and 3 days later I let the bees at the candy.

5. Not certain just what you mean. All queens are reared for breeding purposes; but perhaps you mean how are you to rear a queen that shall be extra good to breed from. Perhaps there is nothing special to do, except to keep close tab of what your bees do, and to breed from the queen of the colony that has given best results.

6. All must be cut out — rather destroyed— unless you want the colony to swarm. But destroying cells is by no means reliable in preventing swarming. A colony may swarm in spite of your destroying cells every day.

7. There's no law against your doing so whenever you feel like it, but I suspect you mean to prevent swarming. As already said, the bees may swarm in spite of all you can do in that way, but it is hardly necessary for you to destroy cells oftener than once every 10 days. If that will not prevent swarming, it will hardly prevent it to destroy them more frequently.

Keeping Queens Over Winter.

Can you advise me of a way to keep a queen-bee alive during the winter? The colony has been destroyed. PENNSYLVANIA.

ANSWER.—I know of no way without having a lot of worker-bees with her.

Winter Bees in a House-Room.

I have 4 colonies of bees that I wish to winter safely. Would it do to put them in an up-stairs room that has no stove-pipe running through? The room is over a room that will be warmed. I could darken the room.

IOWA.

ANSWER.—Might be a good place, providing it is kept dark, with an even temperature of about 45 degrees. The chances are against that, and the probability is that bees would winter poorly there.

Why Not Advertise for Honey?

I have about 100 colonies of bees, and my honey didn't supply the demand for sales. I would like to know of some good, reliable firm to buy 200 or 300 pounds of honey from, and also would like to know how they put the honey on the market—by comb honey or extracted. I suppose I could sell about 200 or 300 pounds, and it would be a great favor to let me know of some firm who would ship me the honey at a reasonable price.

SUBSCRIBER.

ANSWER.—The advertising columns of the American Bee Journal ought to help you out. If you do not see what you want advertised, a small advertisement from you would no doubt bring you offers.

Cellar-Wintering of Bees.

1. As I expect to winter my bees in a cellar, what time in November or December would be best to take them in, in Central Iowa?

2. I have an old colony of bees 2 years old that swarmed 3 times this year. It is in a box-hive with holes at the top, but would not store any surplus honey. It was seemingly strong in bees toward the end of the season. They worked very slowly. I thought they were queenless, but when cold nights came and chilled the brood, they would carry out a large amount of it. The prime swarm they cast stored 90 pounds of comb honey, the second swarm about 25 pounds. The prime swarm I put in an 8-frame hive and the second swarm in a box-hive, so you see they are very industrious. Can you tell me if the old colony is queenless, or have lost their ambition? The hive seems to be full of honey.

3. I have an 8-frame hive that it is almost impossible to lay a cover over the top of the brood-frames, so I laid a board over the top of the hive and sealed it air-tight, but it leaves a ½-inch air-space over the top of the frames. Will this matter if I winter them in the cellar?

The bees in this locality did well this year.

IOWA.

ANSWERS.—1. That depends somewhat upon the weather. Perhaps it will average somewhere near the first of December. If you can tell when they will take their last flight, the day after that will be the right time to take them in.

2. Naturally the colony would not be very strong after sending out 3 swarms, and you hardly ought to expect anything more from it than to build up for winter. You said the bees carried out brood. Like as not that was drone-brood which was carried out after the young queen was fertilized. Of course, it is impossible for me to be positive about it, but the chances are that the colony is all right.

3. It will do no harm.

Using Again Parts of Hive Having Foul Brood.

If bees with foul or black brood partly fill comb and extracting supers, can the sections and extracting combs after being extracted, be used again next year, or can they be disinfected so that they are safe, or should they be destroyed—the fences, combs and sections?

PENNSYLVANIA.

ANSWER.—The safe thing to do with combs from foul-broody colonies, whether the combs are in sections or in frames, is to melt them into wax. Some say they have succeeded in disinfecting them with formaldehyde, but others say it is not a success, and it is best to be on the safe side. Fences would probably be safe to use again, providing they are not daubed with honey.

Why Didn't the Bees Do Better.

Last spring I got a very small colony of bees. They sent out a very large swarm the latter part of July. I went down to Toledo to the G. A. R. Encampment, and stayed 3 weeks. When I came back I found the bees all dead, and no honey. A few days after the first swarm they sent out another. Other bees are doing well, except they fight like little demons. What is the matter?

SOUTH DAKOTA.

ANSWER.—After sending out the 2 swarms, the young queen was lost perhaps on her wedding trip. That left the colony hopelessly queenless, and the colony being previously weakened from swarming became a prey to robbers, perhaps what bees were left going with the robbers.

Covering for Bees in Cellar.

As I am going to winter some bees in the cellar the coming winter for the first time, I would like to know what to put over the top of the hives, or do you leave the covers on? Would 2 or 3 thicknesses of burlap be all right? KANSAS.

ANSWER.—My hives are now on the stands just as they will be in the cellar. That is, they will be lifted from the stand with the bottom-board and cover, carried into the cellar, and piled up 4 or 5 high. The burlap would be all right, too; probably better than close-fitting covers unless entrances are very large. My entrances are 2 inches deep, the full width of the hive, and there is a space 2 inches deep under bottom-bars.

Management to Prevent Swarming—Italians as Fighters and Wax-Makers.

I began bee-keeping when I was 11 years old, and am still at it. My first colony was what I believe are called the German gray bees. They were in a box-hive made to use caps. I now have 4 colonies of bees in this kind of hives.

1. I am thinking about making supers fitted with extracting frames about 12 by 5½, to put under these hives in the spring, and leave them there till they are full of brood, and then take them out from under the hives and put them on top over the excluder and leave them there for the brood to hatch, and fill the combs with honey. My object is to prevent swarming. Is it a good plan? I don't want to transfer them.

2. Last spring I bought a 3 frame nucleus of leather-colored Italian bees, and put them in an 8-frame dovetailed hive. They filled this and 2 supers with fine honey; but oh, such fighters! They are not inclined to fight unless bothered, and then they are about as bad as hornets. Is this a common thing with Italians?

3. I notice that the Italians use about twice the amount of wax in comb-building that the gray bees use. Is this a common thing?

Please excuse me for bothering you with these questions. I finally made up my mind to write to you, and when a boy of 15 makes up his mind he is hard to stop.

MISSOURI.

ANSWERS.—1. Yes, except the idea of continuing odd-sized frames. You don't say when you intend to make the change, which is an important point if you want to put up the frames of brood to help prevent swarming. To get the best results it should be about 10 days before swarms are likely to issue, although local conditions may make some difference. If you are in a white-clover region, you will do well to put up the brood about the time the bees begin to store in the supers.

2. Italians have the reputation of being rather gentle. You may have been unfortunate in getting a particularly vicious strain, or there may be some black blood in them—what you likely call gray blood—for hybrid bees, that is a cross of black and Italian, are apt to be vicious. In any case, possibly you are not as gentle in handing them as you might be.

3. No.

Indications of Queenlessness—Rearing Queens.

1. Is there any way to tell if a colony is queenless without looking for the queen?

2. How is queen-rearing done?

MINNESOTA.

ANSWERS.—1. Not at this time of year. You can tell any time from the time queens begin to lay in the spring until they stop in the fall. If no eggs nor brood are present, there is no laying queen. There may be, however, a young queen which has not yet begun laying. Give the colony a frame of young brood, and if there is no young queen the bees will start queen-cells on the frame you have given.

2. To answer that question in full would take a book. Indeed there is an excellent book on queen-rearing by no less an authority than G. M. Doolittle. Possibly what you are trying to get at may be answered by saying that a queen can be reared only by worker-bees, and that if a colony be made queenless the workers will rear a queen from a young worker-larva by feeding it with special food. [See page 324 for price of Doolittle's bouk.—EDITOR.]

A Method of Swarm Control.

I should like to try the following method of swarm-control, using the Dudley tube, as explained in the Bee-Keepers' Review for August, 1907, page 234. As soon in the spring as the queen begins to fill the hive with brood, remove some of the frames of brood with adhering bees, placing them in an empty hive-body, which is to be put, with cover and bottom-board in place, under the main hive. The only exit from the under hive is by way of a tin tube which extends from the closed entrance to the entrance of the hive above, so that as the older bees leave the lower hive they will emerge at the entrance of the main hive and return to it thereafter.

As the brood hatches from the lower hive, it is replaced with frames of brood from the upper hive, and the empty combs returned to the queen. This gives the queen unlimited room, and at the same time produces a very strong colony. When the honey-flow begins, the lower hive is placed above the main hive, and used as an extracting super, or it can be removed entirely and a super of sections added for comb honey.

1. If the queen is thus given plenty of room, will swarming be prevented, even though the hive be crowded with bees?

2. Should only capped brood be put in the ower hive, or can the bees attend to brood of any age if thin syrup be fed them in an Alexander feeder?

3. For colonies run for extracted honey, would there be any disadvantage in the above system, over simply placing the extra hive-body of drawn combs over the main hive

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allowing the queen to occupy them both until the honey-flow begins, then keeping her below with an excluder? PENNSYLVANIA.

ANSWERS.—1. It would certainly decrease the tendency to swarm, just as increasing the queen's room for eggs always does; whether it could be relied on in all cases as an entire preventive is hard to say without trying. I should rather expect it would so long as fresh room for the queen is constantly given, and even when the flow comes and the lower hive is given above as an extracting super, there ought to be little inclination to swarming, as in the case of the Demaree plan, which is to put all brood above an excluder at the beginning of the honey-flow, leaving the queen below the excluder with comb foundation or empty combs. When one story is entirely removed and a section-super given, it is much the same as shaking a swarm.

Even if I had given the plan a thorough trial, and could tell you exactly what I could rely on, it would still remain true that under your conditions and with your bees, results might be different. After actual trial you may like the plan, and you may not.

2. You would find it practically impossible to shift combs of sealed brood without having any unsealed, nor would it be necessary.

3. I don't know. Separating the bees so that they occupy separate hives must be at a loss of some heat as compared with keeping the bees all in one body, and yet Mr. Dudley must count that there are overbalancing advantages or he would hardly use the plan. Whether it will so turn out for you can be told only upon trial.

Tincture of Myrrh for Bee-Stings—Drumming Bees — Transferring Bees—Robber-Trap—Cutting Out Queen-Cells—Ventilating Hives.

1. What kind of bee are those enclosed? I see no mention in any article in "A B C of Bee-Culture."

2. Are there no bee-sting remedies among so many that are worthless? I will mention what I came across that I am now using, and it is the best of all the many I ever tried. Get a 10-cent vial of tincture of myrrh, and if stung just remove the cork and turn the bottle upside down over the sting and moisten the part stung. The effect is done, or very little swelling, and the pain will cease in from 15 to 30 minutes. When working with bees I always carry the bottle in my pocket, and as soon as stung, out and on it goes. It certainly is fine, and I shall use it hereafter always, although I am somewhat used to stings. Still, once in a while I get a dose that lasts 3 or 4 days, especially on the eyelids. Now let some of our bee-friends try it. It is a wonder, and only 10 cents. It has a pungent odor just as bee-poison, but harmless, and good for many things.

3. What do you mean in answering queries by "drumming" the bees out of a hive in transfering, and how is it done? Is it knocking on the sides or top, and for how long, and how hard? Do you use just the fingers, or fist, or stick?

4. When not practicable to give idle combs to bees to clean out the worms, what would you do?

5. In transferring bees from box-hives into modern hives, I see you always advise "after they swarm, then 21 days after." Now, as one person asks in the September issue, suppose they don't swarm. I had 2 or 3 colonies at one time, and oh, how I had wanted them to swarm, as I wanted increase, and they did not put forth a swarm for 3 seasons. I did not consider myself lucky. Suppose, and I know it is a fact, a swarm issues that has been in a box-hive and I want increase badly, and before 21 days one more, or 2 more, will issue out of the same hive; what then? From where do I count 21? At the present time I want to save all the bees until I get a supply, as I have at this time only 8 colonies, and 4 of them are in box-hives. Those I shall change over into modern hives the coming spring. The other 4 are not any too strong to adopt the nucleus plan, and I don't consider myself adept enough for that, so I want the natural process, and be ready for it. I seem to have been "up against it," for every time I would do anything with my colonies I would lose them. So hereafter no more experimenting. I am not out for the money in the bee-business. No, bless you, no; but I take delight in it, and know a little better, so now that I have 8 colonies—more than I ever had before; but dear me, not my own rearing, but my pocket-book's depletion, for in the last 8 years as high as I ever got was 3 colonies, then 2, then one, and finally none, and oh, what a success bee-business is to a beginner! Well, I know better; but I paid for it.

6. In doubling up swarming bees, or 21 days after swarming, do you smoke them the same as you would in doubling weak colonies in the fall for wintering?

7. In the September issue I see a robber-trap described as a flat tube made out of wire-screen funnel-shaped, the point to extend into about the middle of the hive. Very simple, destroy the robbers. Very good, but how about the bees in the hives? I know the bees in and among the robbers, but how are you going to pick them out when the bottom is nailed on? You destroy just as many home bees as you will robbers, and the way I look at it you surely make a mess of it. How do you understand it?

8. Suppose I have a queenless colony, at least I think they are. I want to requeen by the only way I have, in taking a frame from another hive of the same dimensions, and have but 2 hives alike. Said frame is partly covered with hatching bee-larvæ in several stages, and eggs. No queen-cell that I could see. If I give this frame without any live bees on it to the queenless colony will they rear a queen from it?

9. At what time of year will I find queen-cells, and where shall I look for them? I found I had any amount of empty queen-cells. I had bought those bees previously, and they were in a sugar-barrel, so I transferred them right away, and have had more or less trouble with them since. There was where my trouble started, in saving comb and losing or killing the queen. I have looked in 3 hives and could find nothing but empty queen-cells.

10. In hiving a swarm in the spring will this swarm send out another swarm in the same season? Can I expect a swarm again?

11. Is a glass over the top of the hive injurious to the bees? I put a glass over my hives in order to see them, whether they are doing all right. Then I put on a wooden cover, then a gable roof, and then an oiled canvas large enough to hang over the sides. Besides that they were under a tree. You must remember that this is south, and it gets hot. I have now discarded the glass plan as being no good, and henceforth will replace with oilcloth. Am I right?

12. When should the cutting out of queen-cells be done, and what is the object? Do you take a knife and cut them off and destroy them?

13. When ventilating a hive by pushing the top forward, will not the bees use the space as an entrance, or maybe start comb-building? Where you have to raise the cover on account of the strips on the bottom and sides, and having an oilcloth under the top, how about air then? Oilcloth is almost air-tight; besides it is stuck all around.

TENNESSEE.

ANSWERS.—1. I don't know. The number of different kinds of bees, I think, runs up into the hundreds; they are of no more interest to bee-keepers than other insects, and so descriptions of them are wisely omitted from our literature.

2. Yes, the number of remedies offered has been very great, and they were offered with just as much confidence as you offer this. May yours prove more reliable.

3. Turn a hive upside down, drum on the sides of the hive with your fists or a heavy stick on the opposite sides, and if you drum long enough with heavy strokes you will set the bees to running up into whatever is placed over. No light tapping with your fingers will do, neither will the fists do unless strong and heavy.

4. According to the description in your letter, you certainly had a serious time trying to get rid of the worms. Once established and of good size, it is hard to kill them in a comb with any amount of sulphur. Even if you kill the worms, the eggs are still left. Try bisulphide of carbon. Pile up your combs in hive-bodies, an empty body on top, in which set a saucer of the bisulphide and quickly cover up close. Don't have a fire or light near, or you will have an explosion. You will find not only the worms but the eggs will be killed.

5. If you want to get all the swarms possible, hive the first swarm and set it on a new stand, leaving on the old stand the old colony. A second swarm is likely to issue in 8 or 10 days. Hive it and set it on a new stand, and treat any others that may issue in the same way, always leaving the old hive on the old stand. In 21 days from the time the first swarm issued, cut up the old hive and transfer to a new hive.

But you say, "Suppose the colony does not swarm." If you want to make sure, don't wait for it to swarm. As soon as it is good and strong, honey coming in well, drum out a swarm, hive it in a new hive, and set it on the old stand. Call the old hive No. 1. As before said, set the swarm on the stand of No. 1; set No. 1 in place of another old colony, No. 2, and set No. 2 in a new place. In a little less than 2 weeks you may be pretty certain No. 1 will send out another swarm. Hive it and set it in place of No. 1; and set No 1 in place of another old colony, say No. 3, setting No. 3 in a new place. That will strengthen No. 1 again, so that in one or more days it will be likely to swarm again, and every time it swarms you will set the swarm in place of No. 1, set No. 1 in the place of some other old colony, which old colony you will set in a new place.

Of course, you have the alternative to transfer all colonies without waiting for any to swarm; a good time for that being during fruit-bloom.

6. Yes.

7. You probably refer to an item on the middle of page 276. I think the idea is that the colony which is being troubled by robber-bees will be taken from its stand in the evening, after flight has ceased, and put in a cellar. Then "the trap is put on the stand of the robbed colony," the trap being, as you are told on page 276, nothing more nor less than a common hive with a Porter escape or a cone escape. Thus you will see there will be nothing but robber-bees in the trap-hive.

8. Yes; but the experience you detail shows that there may be exceptions and failures.

9. You will find empty cell-cups almost any time; but you will find them occupied normally only when the bees prepare them for swarming or supersedure. If you desire them at other times, you must make bees queenless, and then they will start queen-cells.

10. If a swarm is hived and itself sends out a swarm the same season, the latter is called a virgin swarm. In an experience of 48 seasons I'm not certain that I ever had more than one virgin swarm, and that was in the past season. But some others have them more commonly. I don't know how it may be with you.

11. A queen-cell is cut out when one wishes to move it to some other place for the bees to rear a queen from it. If it is desired to destroy queen-cells, to prevent queens from being reared in them, they are not generally cut out, but mashed down so as to destroy the larvæ in them.

12. If an opening is made other than the usual entrance after the bees have that entrance established, they seem little inclined to use any other but the regular entrance. I don't understand how there would be chance for comb-building. Most hives do not have oilcloth, nowadays, I think.

A Thanksgiving Hymn.

Another year with bounty crowned
Has rolled from out Thy hand;
Another year with blessings rich
Our lives has gently spanned.

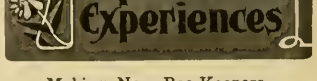
Another year of peace has blessed
Our free and happy land,
And plenty dwells in all our homes
By Thy divine command.

And now as round the cheerful board
We gladly join once more,
With dear ones gathered from afar,
To count Thy goodness o'er,

Let all our hearts with thanks be filled
Unto our fathers' God—
For Mercy, Love and Peace which He
Hath scattered far abroad.

And let the beauty of the Lord
In every mind be found,
Until the country of our choice
With wisdom shall abound.

—Selected.



Making New Bee-Keepers.

Some time ago a person protested against the making of new bee-keepers, that they would soon put the specialists out of business. Now, I do not believe that the spread

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of information on bees among the farmers and all who are so situated that they can keep bees will result in overstocking any locality. But those who do this should tell the truth, and not write big, glowing, sensational articles that are miles from the truth.

If all the farmers who keep bees in an old-fashioned, slipshod way were to start in and buy modern hives, and give the bees the care they should have, there would be no need of foul brood laws or anti-spraying laws; but because the farmers are ignorant of the real profit they are letting go to waste, such laws must be made in order to protect the man who keeps bees for his bread and butter, and for all who keep them in a modern way.

If all would help in the spread of information, as Dr. C. C. Miller, E. W. Alexander, and some others, have done, ignorance and the box-hive bee-keepers would soon be a thing of the past.

Last, but not least, in helping others we will help ourselves, for it will cause honey to be used by families where it was not used before. The idea that some honey is adulterated still clings to some people, and the more they know about the truth, the better it will be for the bee-keepers' patience.

CHAS. M. HIX.

Hampshire, Ill.

Very Light Yield of Honey.

My honey crop this year has been very light. I have only 2 colonies, but I did not get a pound of honey in the supers, but I am pretty sure they have plenty to winter on. I can examine only one. The other has built the comb in such a way that the frames can not be moved. I intended to put it into another hive when it swarmed, but it did not swarm. T. T. ARMSTRONG.

Hiawatha, Kans., Oct. 15.

Good Yield of Extracted Honey.

On September 21 we finished our fourth extracting from 50 8-frame Hoffman supers, summing up a total of 7542 pounds of fine honey, from white and sweet clover, for which we found ready sale at 7 cents a pound.

We live in the Snake River Valley, near the famous Thousand Springs. This is the best honey country we have ever lived in, foul brood being unknown here.

PURDY BROS.

Hagerman, Idaho, Oct. 12.

Still Dry—No Fair Bee-Exhibition.

It is still very dry here. Bees are still at work on a white weed. The balance have all dried up. Our County Fair is going on now, but they make no provisions for a bee-exhibition. I live with my mother who is 89, on a place of our own. R. B. PERRY.

Greenfield, Tenn., Oct. 15.

Bad Luck in Spring.

I had very bad luck with my bees last spring. I lost one more than one-third of them. It was a very cold spring and they dwindled badly. However, I got about 60 pounds of extracted honey per colony, increased from 25 to 48, and had to feed only 5 colonies.

I can not do without the American Bee Journal. It has so much useful information about bee-keeping, and so much interesting reading. EDWARD KNOLL.

Clarksburg, Ont., Oct. 17.

Honey Crop Same as Last Year.

The fall crop of honey here is about the same as last year. I have 75 colonies in 5 yards. I work for honey only—both comb and extracted. I have a good home demand built up. JOHN W. CASH.

Bogart, Ga., Oct. 12.

Shipping Bees by Express.

You say you don't know what can be done to put a stop to such an outrage, as that mentioned on page 903. May I ask who is to blame? You, Mr. White, and I, and every man who earns his living by his hands and brains and goes to the polls to vote every election day. So long as we vote for capitalism and trusts, just so long we will have to get down on our knees to them. To stop it, vote in favor of government ownership of express, banks, and railroads. That is what I'm going to do on Nov. 3.

I had some of the same experience as Mr. White not long ago. I wanted to send a 5-gallon can of honey to an uncle in Nevada. The honey was worth only $3.90, and the railroad company wanted to charge me $7.40 per 100 lbs. out there, or $4.50 for one can. I fooled them. That is since "Teddy" has regulated the railroad rate.

My crop this year is 43,000 pounds of comb honey from 600 colonies, and the work was done alone, except one month of grading and packing. A SUBSCRIBER.

Montrose, Colo.

Fair Crop of Honey.

I had 43 colonies of bees, spring count, and now have 90. I have taken off over 2000 pounds of honey. The dry weather stopped their gathering about the middle of July. I sold some of the honey for 15 cents, but the most of it for 12½ cents a pound. JOHN SEBRING.

Gilman, Iowa, Oct. 22..

Half a Crop of Honey.

The weather was not favorable the past season for a honey-yield. I had half a crop. The weather was too wet and cold in the spring, and too dry since. W. H. STOUT.

Pine Grove, Pa., Oct. 21.

Good Year for Bees.

We have had an extra-good year for the bees—a good flow from horsemint in May and June. Then in July the sumach gave us a good crop, and at this writing the bees are just rolling it in from broom-weed. If frost stays off 2 weeks longer I will get from one to 2 supers per colony from broom-weed.

All together I will get about 100 pounds per colony, counting out 3 that didn't do anything. I have 24 colonies, mostly hybrids, and run for both comb and extracted. I have a good home market for all I have to offer, at 15 cents for comb and 10 cents for extracted.

Blanket, Tex., Oct. 12. A. A. ASHLEY.

All Bee-Keepers Should Read Bee-Papers.

I have 3 neighbors who keep bees, yet none of them care to take a paper. None of them attend to their bees except to hive a swarm if they chance to see it issue. One man has not caught a swarm for 2 years, nor do any of them seem to care how many swarms get away.

Yet often they ask me about such and such a matter concerning my management of bees. I have grown into the habit of making a reply like this, "Really, I know very little about such things. The best way is to take a good bee-paper. Almost every number of the American Bee Journal answers some such question."

I hope I am not selfish, but if I pay for what information I get from a paper, why should I pass it on to those fully as able—even more so—to take such papers?

MRS. GERTRUDE L. GOODWIN.

Roy, Wash., Sept. 24.

An Iowa Apiary.

EDITOR YORK:—The enclosed clipping is from the Decatur County Journal. It is written by the postmaster of Leon, who was once editor of the paper. He questioned me some days ago about my bee-business, as I receive a good many queens by mail. The closing sentence is misleading. He asked me where I got my best queens and I replied that I get my best purchased ones from West Virginia, Kentucky, Texas, and New York; and that I get some good ones from other States.

Leon, Iowa, Sept. 7. EDWIN BEVINS.

[The item Mr. Bevins referred to in his letter above reads thus:—EDITOR.]

THE BEVINS BROTHERS' APIARY.

The Bevins Brothers conduct one of the most extensive apiaries in this section of Iowa on their well equipped and cultivated farm of several hundred acres in Eden township, 5 miles south of Leon on the Pleasanton road.

Edwin Bevins has made a study of the business for years and he is probably one of the most practical authorities on bee-culture in the State. To a representative of the Journal, Mr. Bevins stated that the present season is the poorest for the honey-business that he has known for many years. He attributes this fact to the severe freeze that occurred last spring, injuring the white clover plant from which the bees obtained the food used in the manufacture of honey. In 1904 the growth of white clover was very prolific, and consequently that year surpassed all others in the production of honey.

Mr. Bevins says that he commenced that year with 90 colonies from which he obtained 250 swarms of bees before the close of the season.

The Bevins apiary is stocked with Italian bees obtained from New York, Pennsylvania, Ohio and Texas.

Danger from Foul Brood.

The bees have made good in the mountains this year—better than common. I got 291 cases of comb honey fit to ship, and 20 partly sealed that I sold at home, from 125 colonies, and the price held up better than I expected it to. But I fear we are going to have lots of trouble with foul brood. A man died last fall that owned the largest number of bees of any one in the valley, and his bees were sold at action and scattered broadcast. They were badly diseased. We have an inspector, but nearly every one has a few colonies for home use. *You* know what that means. Besides, every school house has a few in the walls; so do most of the barns; and the bees are under bridges and in the rocks where they can't be got at, and if they get the disease it will be impossible ever to get it out of the country until they are all dead. Then maybe we could start over again. E. C. WRIGHT.

Montrose Co., Colo., Sept. 28.

Report for the Past Season.

As I was sitting in my home this afternoon I was reading the American Bee Journal and just as the Editor says he wants it to contain good moral literature, I will say that it certainly tries to, which I like to read very much.

Reading Mr. Edwin Bevins' article on the shredded wheat biscuit and honey, I will say I had tried that before and please make note of it next month. I cut it open as you would a sandwich, and put the delicious honey in it, and then of course I ate it as a hog does good corn.

My bees are fine, and have been the past summer, and now my trouble, if any, will commence. Last winter late, and early spring, I lost 2 colonies from "moths," I suppose. Between the frames there was mold, and then in them were white worms about ¾-inch long. I don't know what to think of it, as I did not lose any more that were on the same stand or platform.

My other colonies averaged 65 pounds per colony. I secured my first super from the first flow, but I didn't put any supers on this fall, as I wasn't looking for a good flow, and I know my bees did some storing also.

Starting into winter I have 4 colonies. Three are very strong, in old hives. I wish to transfer them, but as they are in bad shape I am puzzled as to what to do. Two of them have crossed brood—that is, the brood is laid crosswise of the hive.

I have new hives of the 10-frame style and the reversible. What about the reversible bottom, or whatever you call it? It comes off clear of the hive.

E. BOYD WILLIAMS.

Wheatland, Ind., Oct. 18.

Bees Do Well There.

I have done well here with my bees. In this State bees get along fine. I have wintered 6 or 8 colonies here in a shed for the past 3 winters, and not one colony has died. I put one sheet of oilcloth on top of the frames. On top of that I put a piece of flannel, then the cover, then paper and old carpet or burlap. This shed has a ground floor with about 2 inches of sawdust on top of the ground. GEO. H. ALLEN.

City Point, Mass., Oct. 3.

Bees Did Fairly Well.

Bees have done fairly well this season in this locality. Mine averaged 40 pounds per colony—all from white clover. There was no fall flow at all. There was plenty of heartsease, smartweed, and buckwheat, but there was no nectar in it—something very unusual. I always looked for the bulk of my crop out of the fall flow. I use the 10-frame hives, double-walled, and use cork for packing these. I think, all things considered, they make the

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bes' hives. I have used some other styles, but do not like them myself. Like the Dadants, I prefer the large hives for honey and successful wintering. I winter my bees on the summer stands and never lose any colonies that have plenty of stores and a good supply of young bees, although there must be good, young queens at the head of the colonies or there will not be the required amount of young bees.

I like the American Bee Journal and will never be without it as long as I keep bees. I think it is the best bee-paper in print.

Hampstead, Md., Oct. 14. SUBSCRIBER.

Some Money in Bee-Keeping.

I see Mr. L. E. Gateley thinks that the man who turns his entire attention to bee-keeping will make a financial failure. That is not the fact on the Western Slope. There are half a dozen bee-keepers in this Valley that do nothing else, and they are all getting rich. There is no business in Colorado that pays so well in proportion to the money invested For instance, one bee-keeper with 600 colonies received a check for his 1907 crop of $4050; another with 400 colonies, $2500; and bees sold here in the spring of 1907 for $3 per colony. Our crop for 1908 is better than last year. I have 125 colonies, and the crop of 1908 was $600. If that is not percent enough, what would Mr. Gateley want?

E. C. WRIGHT.

Montrose, Co., Colo., Oct. 13

The Bee No Small Affair.

EDITOR YORK:— I enclose an item taken from the editorial page of the Minneapolis Journal of recent date, which may be of interest to the readers of the American Bee Journal.

I had fair success with my one colony of bees for a start this year. I took off 39 pounds of section honey and had 3 nice swarms besides. I also had 76 pounds in extracting combs, over and above what the 4 colonies need for winter.

I keep bees for recreation and pleasure, and combine them with strawberries, chickens, and garden.

I always look forward with pleasure and interest for the next issue of the American Bee Journal, which I think is an ideal paper for all classes of bee-keepers.

FRANK L. HUBBARD.

Minneapolis, Minn., Oct. 10.

[The item referred to by Mr. Hubbard in the foregoing, reads as follows:—EDITOR.]

THE NEGLECTED HONEY-BEE.

The American hen has been shown by statistics to be a more lucrative bird than all the more showy aviating animals put together. She even produces more wealth than the mines of the country. She tops the cotton crop with the value of her cackle.

But here comes the busy bee with its claim. Last year the mines of Colorado produced $35,000,000 in money on a stock capital of about as many billions. But the honey-bee, which is not incorporated at all, and for which no keen promoters sell blocks of stock that are bound to double in value in sixty days—the honey-bee has $25,000,000 to its credit. Yet the bee is neglected. People do not warm up to a bee as they do to a race horse. When a bee comes buzzing by, singing its song of wealth and contentment, people jump out of their boots. They avoid the bee instead of rejoicing to see it with its dinner-pail over its arm. Consequently, the bee is neglected. Admittedly, if it received the attention bestowed upon the hen, its output would triple in value in 2 years. Why not give the bee a run for its money?

White Mulberries for Bees.

I keep just one colony as a sort of pastime. All boys must have fun; even the 70-year-olds are no exception. They afford me pleasure and study, profit and stings. I have an exclusive place that is well protected from cold winds and the excessive vigilance of the street urchins who would fondly shy rocks at the hive to see if the bees will bite. I am surrounded by my neighbors' gardens, which offer fine forage, besides the white and sweet clover to be found on the edges of our town. Mine are the active Italians and attend strictly to business on all favorable occasions. On warm summer days they seem actually to fall over each other in their efforts to fill the storehouse. And as we naturally like to help those who help themselves, I began the middle of June to pick, mash, and feed white mulberries to them, placing a liberal allowance on the alighting-board several times each day, as long as they lasted—August 13th—a more prolonged fruitage than usual.

And they show their apreciation of my service in a substantial manner.

I have learned several practical kinks regarding bees by just keeping my eyes and ears wide open, and if the boys want to know I will gladly tell them, but I am persuaded that it is useless to attempt to explain to their "daddies," as they already know too much and don't wish to enlarge their sphere of knowledge. Usually the old "fellers" are too indifferent to acquire "tips" on new ventures. But I like boys and girls because they are never stationary—*they want to know.*

Well, toward the end of September I concluded I would see what my 3 supers contained. Each 9-frame super was packed with good, luscious honey. The 27 frames I conservatively estimate at 100 pounds of as fine sweets as ever bees produced. I cut around the frames, cut the slab into 2 pieces, put them into clean butter-crocks and transferred them to a shelf in our basement for the delectation of our family and friends.

I winter my colony on its summer stand, protecting it by inverting a larger box over the hive and covering with tarpaulin against the rains and melting snows.

With some 40 pounds of provision in their home I feel assured they will, as before, pull through handsomely, and be ready to greet me in the spring. DR. PEIRO.

Chicago, Ill., Oct. 10.

Too Dry for Fall Honey.

I have sold 20 colonies of bees, reducing my number to 14, and that is more than I can handle, as I am at home so little. I have taken only 600 pounds, or sections of honey off this season, but have not sold any for less than 16 cents a section. The season has been too dry here for fall honey. Bees got no buckwheat honey, though there was lots of buckwheat around here.

E. E. KENNICOTT.

Glenview, Ill., Oct. 10.

Some Interesting Bee-Experiences.

I will give you some of my successes and failures in a new country. Having handled bees in Indiana since I was 12 years old, I came to Northern Minnesota 6 years ago, and had been without bees until last spring when I sent for one colony, which I received about the middle of May. So by spreading the brood I increased the 8-frame colony to 16 frames, of which 14 contained brood. At this time I divided it into 4 colonies.

The next week, or first of July, I received a queen by mail, so I was compelled to start another nucleus to receive her, which made 5 colonies, 2 with laying queens and 3 with queen-cells. The failures were in getting queens mated. I lost 4 out of 5. I think the dragon-flies would catch them when they would fly out to mate, or at least they would disappear.

At present I have 4 colonies running over with bees, and have taken 24 pounds of comb honey and about 75 pounds of extracted. I have not bothered the brood-chamber of 10 frames, and reserved 8 full frames to put back for the bees.

Since extracting there has been another fall flow from which I expect 50 pounds. At this flow the bees were so excited that they would leave the hive when it was so dark that they could not see to return.

While I have handled bees for 25 years, I have met with several strange things. I started 3 nuclei with queen-cells in ample time. They hatched and were nice queens, of which one commenced to lay. The other two disappeared, at which time I gave a frame of eggs, from which they promptly started queen-cells; but before the queen hatched, when I would go to examine them they would form about a dozen balls the size of a hen's egg, as if they were balling that many queens. On taking the balls out and smoking them, I found nothing but a hairless, black looking bee in each one. If I would smoke the ball apart, as soon as I would quit smoking they would jump onto it again. Were there commencing to be laying workers, and in the presence of queen-cells did they want to dispose of them? When they would commence to ball these, they would not quit until they had thrown them out dead. This was only one colony, and when the queen hatched they treated her well at first, but she did not lay, and after about 21 days they commenced to treat her cross, and at last to ball her. I guess they came to the conclusion that she was "no good" without laying, at which time I disposed of her and united them with another colony.

I do not find anything in my text-book like this.

Another curiosity: I went to a hive the other day and opened it, when to my surprise I saw a huge bumble-bee queen, the size of the end of my thumb, walking among the bees without being molested. Had she gone in there for the winter? Would she do any harm to the bees, do you suppose? At that date (September 28), from one colony in an 8-frame hive, spring count, I had increased to 4 colonies, and have 70 drawn combs, with about 125 pounds of extracted honey and 20 pounds comb honey, water white and of fine flavor. DAVID E. DOBBS.

Indus, Minn.

Found It Worth Something.

I know the worth of the American Bee Journal. One copy of the 1906 issue I borrowed from a neighbor that gave me instructions on how to treat foul brood, and saved me two colonies, which later in the season this year, filled 4 supers of alfalfa honey. The 2 colonies—all I had—were combined in April. I burned the brood-combs, boiled the frames, burned the inside of the hives, and then put the bees back after 48 hours. They did fine, and were passed as all right by the bee-inspector last week. L. W. BENSON.

Grand Junction, Colo., Oct. 24.

Feeding Bees.

Having read so much about feeding and feeders in the bee-papers for the last few months, I thought I would explain a method which I have practised with success for several years. This method has the following arguments for its use, especially to the extracted-honey producer: 1. There is no need of feeders and their expense; 2. You can feed at any hour of day; 3. It is natural and quick.

Here is the explanation. 1. There must be an extracting super on each hive, or if you run for comb honey, replace the outside row of sections by a shallow extracting frame.

2. Prepare your syrup. If you have a good method follow it. But here is the way ours is made: Into boiling or cold water placed in an extractor (or if you haven't an extractor a tub will answer), stir gradually an equal amount of granulated sugar and water by whirling the baskets. Stir until the syrup reaches the desired consistency. You will notice on page 269 that Mr. G. M. Doolittle gives a very good method. When the syrup is finished place it in a pot with a spout or an old water sprinkler with the spreader removed.

3. Approach the hive and gently push the cover back until the end of the frame is uncovered. Remove the frame, laying it flat on the lid. Then pour a little syrup on the comb, rubbing it into the cells by a circular motion, continually pouring more syrup on until you have that side filled. Then turn the frame once and fill the other side in the same manner. Replace the frame, cover the hive, and proceed in like manner through the apiary. The bees will come up into the super and remove the syrup to the brood-chamber when they will ripen it. In a few days return to the apiary and repeat the process until you have fed enough syrup for your purpose.

It will be noticed in the above that I say frame instead of frames. Here in California where the weather is warm nearly the year around, I have prepared as high as 4 frames to the colony, but in the East I couldn't advise you to do this. You understand, of course, that a strong colony could take care of more syrup when fed after this plan. This method is especially valuable for stimulative feeding in the early spring.

Redlands, Calif. CHAS. TROUT.

Chicago-Northwestern Convention

This will be held in the Club Room of the Briggs House, corner Fifth Ave. and Randolph Sts., Chicago, on Wednesday and Thursday, December 2 and 3, 1908, beginning at 10:30 a. m. on Wednesday. It occurs at the time of the

International Live Stock Exposition, so that low rates will likely rule on all railroads entering Chicago. The question-box will, as usual, occupy "the center of the stage." The Chicago-Northwestern convention has the reputation of being the most interesting meeting of bee-keepers in America. Any question of interest can be brought out and discussed thoroughly by some of the best bee-keepers in all the world. Bring your questions with you, and everybody come. Ladies are especially invited.

It is expected that among others the following will be present: Dr. C. C. Miller, C. P. Dadant, N. E. France, Geo. E. Hilton, W. Z. Hutchinson, Franklin Wilcox, Jas. A. Stone, J. Q. Smith, Chas. Becker, E. D. Townsend, and Ernest R. Root. Come and help to make this the best meeting the Chicago-Northwestern Association has ever held.

HERMAN F. MOORE, *Sec.*
Park Ridge, Ill.

Pennsylvania State Convention

This convention will be held in the Court House at York, Pa., Nov. 12 and 13, with headquarters at Marshall Hotel. Rate, $1 per day.

On Thursday, at 1:30 p. m., there will be an address by President Prof. H. C. Klinger; an address by Dr. E. F. Phillips; and then a general discussion of apiculture in the United States.

On Thursday evening there will be an address by Geo. Rea; on Friday afternoon an address by Prof. H. A. Surface, on "Hay and Honey Plants;" Friday evening an address by Dr. E. F. Phillips, on "Treatment of Bee-Diseases."

It is contemplated that with two more pre-arranged communications the program will be ample, and due attention may be given to the consideration of the legislative control of bee-diseases, and timely topics.

It is urged that our present membership make special effort to bring other bee-keepers into our ranks. We need many new as well as our old members to work together during the coming winter to secure the enactment of the bill that was so uniformly approved at the last session of the Legislature.

A. F. SATTERTHWAIT, *Sec.*
Harrisburg, Pa.

The Panhandle Convention

The Panhandle Bee-Keepers' Association will meet in Knights Golden Eagle Hall, corner 38th and Jacob Sts., Wheeling, W. Va., Monday, November 16, 1908. W. L. KINSEY, *Sec.*
Blaine, Ohio.

Illinois State Convention

The Illinois State Bee-Keepers' Association will meet Nov. 19th and 20th, at the State house in Springfield. We may have no program except what will be made up by the best of our bee-keepers—which is always better than a set program, if those present are alive to their opportunity.

The Illinois State Bee-Keepers' Association has made arrangements with the State Board of Agriculture to have bees handled in cages at the State Fair. In one cage, for the purpose, a foul-broody hive will be shown up. Louis Werner, of Edwardsville, will do the manipulating. JAS. A. STONE, *Sec.*
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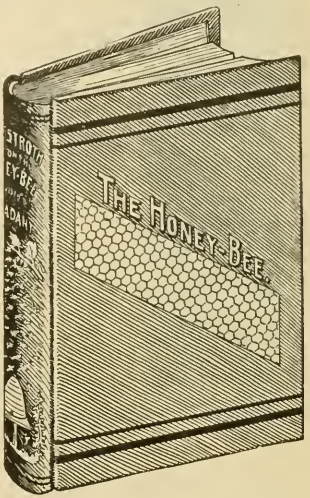

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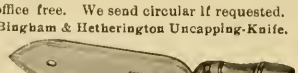

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We manufacture a full line of **Bee-Keepers' Supplies.**

Fall and winter discounts:—Sept., 7 per ct.; Oct., 6 per ct.; Nov., 5 per ct.; Dec., 4 per ct.; Jan., 3 per ct.; Feb., 2 per ct.; Mar., 1 per ct. Catalog free.

W. T. FALCONER MFG., CO.
Jamestown, N. Y.

Mention Bee Journal when writing.

Headquarters for Bee-Supplies

ROOT'S GOODS

At Root's Factory Prices

Honey Wanted

Fancy white clover Extracted. State how it is put up, and the price expected, delivered Cincinnati.

C. H. W. WEBER

CINCINNATI ...OHIO...

Office and Salesrooms, 2146-48 Central Ave. Warehouses. Freeman and Central Aves.

Honey and Beeswax

CHICAGO, Oct. 21.—There has been a fair trade in honey this month, prior to which time there was practically none. We think there is a little firmer tendency, but there is no advance in prices. The A No. 1 to fancy grades are bringing 13 to 14c, with anything below this of 1 cent to 3 cents per pound less; this includes the amber and second grades. The best grades of white extracted range from 7 to 8c, with amber 6½ to 7c; off flavors and low grades from 5 to 6c. Beeswax is meeting with ready sale at 30c when free from impurities.
R. A. BURNETT & CO.

CINCINNATI, Oct. 22.—The market on comb honey is more active, and there are some large lots moving. There will be no big prices, due to the fact that there is considerable old honey left from last year. No. 1 white comb honey is selling at 14c, or 15c in small lots. Dark or off grades are not selling at any price—there is practically no demand for them. Amber honey is in good demand at 6½ to 7c; white clover honey is selling at 8c in 60 lb. cans; water white sage, fancy, at 9c. Beeswax is in fair demand at 30c.
The above quotations are what we are selling at. C. H. W. WEBER.

KANSAS CITY, Oct. 22.—The market is pretty well supplied with comb honey; on account of the warm weather the demand has been light, but with the advent of cold weather we look for a much better demand. The receipts on extracted are very light; the demand good. We quote No. 1 white comb honey, 24-section case, $3.00 to $2.75. White extracted, 8c; amber, 7 to 7½c. Beeswax, 28c. C. C. CLEMONS & COMPANY.

NEW YORK, Oct. 22.—The demand for comb honey is fair but not up to former years. Receipts are sufficient to meet the demands; there is no overstock, however, and prices are holding firm. We quote: Fancy white, 15c; No. 1 white, 13 to 14c; No. 2 white, 12c; dark and amber, 10 to 11c, according to quality and style of package. Extracted in fairly good demand, but large supplies. We quote: California white sage, 8½ to 9c; light amber, 8c; white clover, 8 to 8½c; amber and dark, 6 1-2 to 7c. Southern in barrels and half barrels, 60 to 75c a gallon according to quality. Beeswax dull and declining. We quote nominally 28 or 29c.
HILDRETH & SEGELKEN.

ZANESVILLE, OHIO, Oct. 22.—If any change there is a slightly improved demand for honey, though prices are a little lower. No. 1 to fancy white comb should bring on arrival about 13c; extracted, 7 1-2c. No. 1 to fancy comb sells to the retail grocery trade at 15 to 16c. Clover extracted in 5-gallon cans sells for 9 1-2 to 10c. Beeswax brings on arrival 28c cash, or 30c in exchange for merchandise. EDMUND W. PEIRCE.

PHILADELPHIA, Oct. 23.—Honey has been arriving quite freely in the last 10 days, but owing to the quantity kept back by the producers the markets are somewhat unsettled. We quote: Fancy white comb honey, 15 to 16c; No. 1 white, 14 to 15c; amber 13c. Fancy white extracted in 60-lb. cans, 8 to 9c; amber 6 to 8c, according to quality and flavor. Beeswax, 28c. WM. A. SELSER.

DENVER, Oct. 24.—With the advent of cold weather the demand for honey has improved somewhat. We quom No. 1 white, per case, $3.15; No. 1 light amber, $3.00; No. 2, $2.85 per case of 24 sections. Strained and amber extracted, 6½ to 7 1-2c; light amber, 7 1-2 to 8½c; white, 8 1-2c. We pay 24c per lb. for clean yellow beeswax delivered here.
THE COLO. HONEY PRODUCERS' ASS'N.

INDIANAPOLIS, Oct. 22.—There seems to be a good demand for best grades of both comb and extracted honey. Prices are still irregular, but producers are offering fancy white comb at 12½c; No. 1 white at 12c; and best extracted, in 5-gallon cans, at 7c. Almost no demand for amber grades. Beeswax is steady at 28c spot cash.
WALTER S. POUDER.

TOLEDO, Oct. 23.—The demand for comb honey does not seem to be as brisk as was expected and, owing to the exceedingly large crop, prices are very low. We are offering fancy and No. 1, from 15 to 16c; No. 2, 14c. We do not handle any darker grades. There is some demand for buckwheat honey in the East, and this would probably bring from 12 to 12½c. Extracted is quite firm; white clover in cans or barrels, 7¼c in a small way—some instances 8c; amber, 6 to 6½c. Beeswax, 26c cash, or 28c in trade.
THE GRIGGS BROS. & NICHOLS CO.

ITALIAN BEES AND QUEENS, SUPPLIES A. I. Root's Standard Goods. Ask for Circulars.
ALISO APIARY, El Toro, Orange Co., Calif.

Books for Bee-Keepers

Have you a good bee-book? Many bee-keepers do not have. And that is where they make a big mistake. A bee-paper cannot take the place of a good bee-book. The paper is a splendid thing to read *in connection with the book.* On another page we make some generous clubbing offers of bee-books with the American Bee Journal. Why not order a book when renewing your subscription? You will find the book and the Journal a great combination. You should have both of them.

Getting New Subscribers

This should be a good time to get new subscribers for the American Bee Journal. On another page we offer a number of premiums for such work. We hope that as many of our present readers as possible will help us to increase our subscription list. The more intelligent bee-keepers are, the better it will be for all interested in the business. And much of that intelligence is secured by reading. We will be pleased to send free sample copies on request. Shall we not be favored with a large increase of new subscriptions during the next 2 or 3 months?

Pays to Have a Bone Cutter.

One of the greatest virtues of feeding cut green bone is in its freshness, when it is not only more relished by the fowls but produces far greater results in egg production.

To own a bone cutter and cut the fresh bones every day is the method of the successful poultry keeper. This is made possible to many by the low cost and adaptability of several machines on the market, notably the well-known Crown Bone Cutter, which works easily and quickly and soon pays for itself in the increased egg ouput of the flock.

The makers of this machine, Wilson Bros., Box 618, Easton, Pa., have issued a descriptive catalogue of their various sizes which they will send on request.

It would be advisable to secure a copy and look into the matter.

American Bee Journal

Before buying your **Comb Foundation** or disposing of your **Beeswax** be sure to get our prices on Wax and Foundation, or get our prices on **Working Wax into Foundation.**

We are also in a position to quote you prices on **Hives, Sections** and **all Other Supplies.** We give **Liberal Discounts** during the months of November, December, January and February. Remember that

Dadant's Foundation

is the very best that money can buy. We always guarantee satisfaction in every way.

Langstroth on the Honey-Bee (new edition), by mail, $1.20.

Send for our prices on Extracted White Clover and Amber Fall honey.

DADANT & SONS, Hamilton, Illinois

CAPON TOOLS

CAPONS bring the largest profits —100 per cent more than other poultry. Caponizing is easy and soon learned. Progressive poultrymen use

PILLING CAPONIZING SETS

Postpaid $2.50 per set with free instructions. The convenient, durable, ready-for-use kind. Best material. We also make *Poultry Marker 25c. Gape Worm Extractor 25c French Killing Knife 50c. Capon Book Free.*

G. P. Pilling & Son, Arch St., Philadelphia, Pa.

HONEY AND BEESWAX

When consigning, buying, or selling, consult

R. A. BURNETT & CO.

199 South Water St. Chicago, Ill

Bee Journal for 1907—40c.

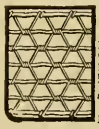
We still have on hand some complete volumes of the American Bee Journal for *1907*, which we will mail for 40 cents each. The first half of that year the Bee Journal was issued weekly, and the last half monthly, which would make 32 numbers. And all of them for only 40 cents! Surely this is a bargain for any new reader who has become a subscriber this year.

FOR SALE

$1 to $3 a pair. Registered Homing Pigeons; Big Squab Breeders. Also Angora and Belgian Hares; Fancy experiment station; crosses in all colors. Mail orders filled.

HULBERT GLEN ELLYN, ILL.

Mention Bee Journal when writing.



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Made of **High Carbon Double Strength** Coiled Wire. **Heavily Galvanized** to prevent rust. Have **no agents.** Sell at **factory prices on 30 days' free trial.** We pay **all freight.** 37 heights of farm and poultry fence. **Catalog Free.**

COILED SPRING FENCE CO.

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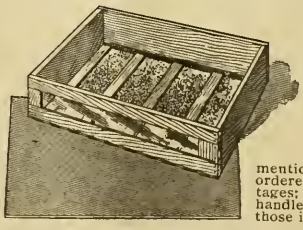
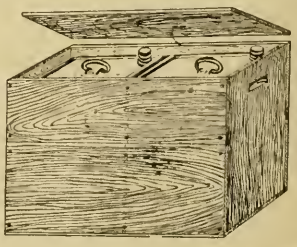


Shipping-Cases

For any number or size of Sections desired. These cases are made of fine white basswood and the workmanship is first class. Owing to the shortage of the honey crop last year, we have a good stock on hand and can make immediate shipment.

Twelve-inch case with follower to hold 24, or 8-inch case with follower to hold 12 bee-way sections, shipped when no size is mentioned. All cases single-tier unless otherwise ordered. The double-tier case has many advantages; lighter, stronger, shows more sections, is handled and stored easier. Further particulars to those interested.

Honey-Packages in Tin



Standard packages for storing and shipping extracted honey. Less chance for leakage or taint from wood; being square they economize on space. Five-gallon cans boxed two or one in a box, gallon cans 10, and half-gallon cans 12 to the box. Five, one and half-gallon cans not boxed if desired. Prices on application for any quantity.

Place your order for the number of Cases and Honey Packages wanted, and we will guarantee prices and prompt shipment.

Minnesota Bee Supply Company

152 Nicollet Island, Minneapolis, Minn.

48th Year
No. 12

December, 1908

75c. a Year
10c. a Copy

AMERICAN BEE JOURNAL

Courtesy Gleanings in Bee Culture.

The Late E. W. Alexander, of Delanson, N. Y.

(See page 362.)

American Bee Journal

THE AMERICAN BEE JOURNAL

PUBLISHED MONTHLY BY

GEORGE W. YORK & COMPANY

118 W. Jackson Blvd., Chicago, Ill.

IMPORTANT NOTICE.

THE SUBSCRIPTION PRICE of this Journal is 75 cents a year, in the United States of America, (except Chicago, where it is $1.00), and Mexico; in Canada 85 cents; and in all other countries in the Postal Union, 25 cents a year extra for postage. Sample copy free.

THE WRAPPER-LABEL DATE indicates the end of the month to which your subscription is paid. For instance, "dec08" on your label shows that it is paid to the end of December, 1908.

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Advertising Rate, per Agate Line, 15c.

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3 times 14c a line — 9 times 11c a line

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Goes to press the 6th of each month.

National Bee-Keepers' Association

Objects of the Association.

1st.—To promote the interests of its members.

2d.—To protect and defend its members in their lawful rights.

3d.—To enforce laws against the adulteration of honey.

Annual Membership Dues, $1.00.

General Manager and Treasurer—
N. E. FRANCE, Platteville, Wis.

☞ If more convenient, Dues may be sent to the publishers of the American Bee Journal.

"Songs of Beedom"

This is a pamphlet, 6x9 inches, containing 10 songs (words and music) written specially for bee-keepers, by Hon. Eugene Secor, Dr. C. C. Miller, and others. They are arranged for either organ or piano. The list includes the following: "Bee-Keepers' Reunion Song;" "The Bee-Keeper's Lullaby;" "The Hum of the Bees in the Apple-Bloom;" "The Humming of the Bees;" "Buckwheat Cakes and Honey;" "Dot Happy Bee-Man;" "Bee-Keepers' Convention Song;" "The Busy, Buzzing Bees;" "Spring-Time Joys;" and "Convention Song." The pamphlet is mailed for 25 cents, or sent with the American Bee Journal one year—both for only 90 cents. Send all orders to the American Bee Journal, 118 W. Jackson, Chicago, Ill.

Western Bee-Keepers We Will Show You how to save money. Send for our new catalog of the best Bee-ware made.

THE COLORADO HONEY-PRODUCERS' ASS'N, Denver, Colo

3 Standard Papers at a Bargain!

Farm Journal (2 yrs.), Garden Magazine-Farming, and American Bee Journal---All 3 Monthlies for Only $1.50.

What the Papers Are:

THE GARDEN MAGAZINE-FARMING is a constant inspiration for those who enjoy flowers and vegetables and trees and lawns, and a very present help in time of need. The Garden Magazine has superb illustrations and practical and helpful planting tables. It can help you. The leading series for the coming year is "Old World Effects with New World Material," showing how England grows our own flowers better than we do, and what we should do for ourselves. Another big feature is a planting table for trees, new and unique, and one of the series of tables run each year. "The cheapest garden series of planting instructions gives different plans for small yards at very moderate cost." Two double numbers at 25 cents each are included with every yearly subscription.

THE FARM JOURNAL has over a half-million subscribers—3,000,000 readers. It is practical, honest, progressive, cheerful, clean. It is for the farmer, stockman, trucker, fruit grower, dairyman, poultryman, the women folks, the boys and girls. It is boiled down—cream, not skim-milk—full of gumption and sunshine. It is for the good folks in our farm and village homes. It is for human beings, not fat hogs. Fat hogs are all right, but they do not come first.

THE AMERICAN BEE JOURNAL—well, you have a copy right here, so it speaks for itself.

The above 3 papers for only $1.50 is surely a bargain. And the Farm Journal will be sent for 2 years—the others 1 year each—to either new or renewal subscribers.

George W. York & Co., 118 W. Jackson, CHICAGO, ILL.

"If Goods are Wanted Quick Send to Pouder."

ESTABLISHED 1889

Bee-Supplies. Root's Goods in Indiana.

Standard Hives with latest improvements, Danzenbaker Hives, Honey-Boxes, Comb Foundation and everything that is used in the bee-yard. Large illustrated catalog mailed free. Finest White Clover Extracted Honey for sale in any quantity desired.

WALTER S. POUDER, 513-515 Massachusetts Ave., Indianapolis, Ind.

Dittmer's Comb Foundation

Is the Best. Not because we say so, but because the Bees prefer it to other makes.

Dittmer's Process is Dittmer's

It has built its Reputation and established its Merits, on its own Foundation and its own Name.

We make a Specialty of Working Wax into Foundation for Cash.

Write for free catalog and prices on full Line of Supplies.

GUS DITTMER CO., Augusta, Wis.

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Lewis Bee-Ware Excells All

Best Goods on the market for the money. Prompt shipment. Satisfaction always. Send for Catalog—it's free for the asking. 1Atf

The C. M. SCOTT CO.,

1009 E. Washington St., Indianapolis, Ind.

200 Bee-Hives at a Sacrifice

Buy your hives now for next season and save money. These are practically as good as new, set up and well painted ready for the bees. Will be shipped to take the K. D. rate. Regular dovetailed, $1.00 each; regular Langstroth, $1.00 each; Langstroth-Simplicity, 75c each; standard size, plain-joint hive with loose-hanging frames, 75c each; one 4-fr. Root Automatic Extractor, good as new, $17; uncapping can, $3.50; Miller feeders, set up, new, each 25c. Queen-excluders, each 10c. **Fine heavy-bodied extracted honey, $5.95 per 60-lb. can.** Order the goods from this ad., and **do so at once**, as they must be sold soon. 12Alt

L. M. GULDEN, Osakis, Minn.

American Bee Journal

BEE-KEEPERS

Write us now for our Catalog and get low prices on good, honest,

BEE-KEEPERS' SUPPLIES

Our specialty is making Sections. All other goods up-to-date.

AUG. LOTZ & SON, Cadott, Wis.

10A34t Please mention the Bee Journal.

BIG BARGAINS In Bee-Keepers' Supplies. Send list of goods wanted, for best prices. Cat. ready Jan. 1st. Italian Bees for sale. Barred P. R. Cockerels, also White Wyandotte—$1.00 each. All requests promptly answered.

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DID YOU

Ever stop to think what a good investment a few good queens would be? I send out no inferior queens. All my queens are selected, as I kill all that are no good. If you want one or 100, write me. 11Atf

S. F. TREGO, Swedona, Ill.

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We are in the market for **Extracted Honey** in any quantity. Write us what you have to offer and mail sample.

Michigan White Clover Honey Co.,

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WANTED—BEES ON SHARES By expert apiarist. Western States preferred. Give particulars and references in first letter. 11A2t

C. A. WURTH, 640 Leverette St., Fayetteville, Ark.

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BE A RAILROAD MAN

We'll make a Fireman or Brakeman out of you in short time by mail. Instruction is practical and fits you for good salary. Graduates in big demand. Only school conducted by railroad men and endorsed by railway managers. Write today for our free catalog.

The Wenthe Railway Cor. School, Dept. S-R-892, Freeport, Ill.

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We offer many premiums in this number for the work of getting new subscribers for the American Bee Journal. We request every reader to help us increase the list of regular subscribers. It is not our aim to make more bee-keepers, but to make better bee-keepers of those who now are in the business. Surely this is right. Why not get your neighbor bee-keepers to take the American Bee Journal? It will pay you in more ways than one to do such missionary work. We not only pay you for it, but you will thus be helping to inform the bee-keepers around you how to conduct bee-keeping in the proper way; how to keep their bees free from disease; how not to spoil the honey market for you and themselves; how—but there are so many ways in which they would be helped by reading the American Bee Journal every month. And the cost is so small—only 75 cents for a whole year—about 6 cents a month. We will be glad to furnish free all the sample copies you can use judiciously. Why not begin now?

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The subscription agency business is just beginning to develop, and every man and woman can learn it by my complete instructions, personally conducted by mail. You can in your leisure hours conduct a mail-order business that is dignified, and earn **large profits** by the **Grumiaux System.**

Begin in a small way and watch it grow. The principles upon which I built my business become yours, and the benefits of my 22 years' experience—you need not make the mistakes I did—the elements of success as I discovered them, my ideas, my schemes, all become yours through the **Grumiaux System.**

Year after year the renewal business increases profits, and before you know it you have a substantial business of your own. Start by working a few hours evenings.

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American Bee Journal	$ .75	American Bee Journal	$ .75
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Our Price, $1.65 for all 5.

American Bee Journal, American Thresherman and Ladies' World	$2.00
American Bee Journal, Farm Stock and Home, and Designer	1.70
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Pictorial Review	1.00	Designer or New Ideas	.50
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Modern Priscilla	.50	Modern Priscilla	.50

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OR

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American Bee Journal

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In Connection With The

AMERICAN BEE JOURNAL

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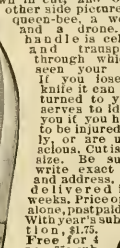
BEE-KEEPERS' NOVELTY POCKET-KNIFE

Your name and address put on one side of the handle as shown in cut, and on the other side pictures of a queen-bee, a worker, and a drone. The handle is celluloid and transparent, through which is seen your name. If you lose this knife it can be returned to you, or nerves to identify you if you happen to be injured fatally, or are unconscious. Cut is exact size. Be sure to write exact name and address. Knife delivered in two weeks. Price of knife alone, postpaid, $1.25. With year's subscription, $1.75. **Free** for 4 new 75c subscriptions.

BEE-KEEPERS' GOLD-NIB FOUNTAIN PEN



A really good pen. As far as **true** usefulness goes is equal to any any of the higher-priced, much-advertised pens. If you pay more it's **name** you're charged for. The Gold Nib is guaranteed 14 Karat gold, Iridium pointed. The holder is hard rubber, handsomely finished. The cover fits snugly, and can't slip off because it slightly wedges on the barrel at either end. This pen is nonleakable. It is very easily cleaned, the pen-point and feeder being quickly removed. The simple feeder gives a uniform supply of ink to the pen-point without dropping, blotting or spotting. Every bee-keeper ought to carry one in his vest-pocket. Comes in box with directions and filler. Each pen guaranteed. Here shown two-thirds actual size.

Price alone, postpaid, $1.25. With a year's subscription, $1.75. **Given free** for 4 new subscriptions at 75 cents each.

MONETTE QUEEN-CLIPPING DEVICE

The Monette Queen-Clipping Device is a fine thing for use in catching and clipping Queens' wings. Four and one-half inches high. It is used by many bee-keepers. Full printed directions sent with each one.

Price alone, postpaid, 25 cents. With a year's subscription, 90 cents. **Given free** for sending one new subscription at 75 cents.

IDEAL HIVE-TOOL

A special tool invented by a Minnesota bee-keeper, adapted for prying up supers and for general work around the apiary. Made of malleable iron, 8½ inches long. The middle part is 1 1-16 inches wide and 7-32 thick. The smaller end is 1⅞ inches long, ½ inch wide, and 7-32 thick, ending like a screw-driver. The larger end is wedge-shaped having a sharp, semi-circular edge, making it almost perfect for prying up covers, supers, etc., as it does not mar the wood. Dr. Miller, who has used it since 1903 says, Jan. 7, 1907; "I think as much of the tool as ever."

Exactly half actual size.

Price alone, postpaid, 40 cents. With a year's subscription, $1.00. **Given free** for 2 new subscriptions at 75c each.

PREMIUM QUEENS

These are untested, standard-bred Italian Queens, reports of which have been highly satisfactory. They are active breeders, and produce good workers.

Sent only after May 1st. Orders booked any time for queens. Safe delivery guaranteed. Price, 75 cents each, 6 for $4.00, or 12 for $7.50. One queen with a year's subscription, $1.20.

Queen **free** for 3 new 75c subscriptions.

HUMOROUS BEE POST-CARDS

I CANNOT BEAR TO LOSE YOU
O WON'T YOU BEE MY HONEY,
AND CHEER THIS LONELY HEART?
FOR I WOULD HUG YOU ALL THE TIME;
AND WE WOULD NEVER PART

A "Teddy Bear" on good terms with everybody, including the bees swarming out of the old-fashioned "skep." Size 3½x5½, printed in four colors. Blank space 1¾x3 inches for writing. Prices 3 postpaid, 10 cents; 10 for 25 cents. Ten with a year's subscription, 90 cents. Six **given free** for **one new** 75c subscription.

BOOKS FOR BEE-KEEPERS

Forty Years Among the Bees, by Dr. C. C. Miller.—334 pages, bound in handsome cloth, with gold letters and design, illustrated with 112 beautiful half-tone pictures taken by Dr. Miller. It is a good, new story of successful bee-keeping by one of the masters, and shows in minutest detail just how Dr. Miller does things with bees. Price alone, $1.00. With a year's subscription, $1.50. **Given free** for 3 new subscriptions at 75 cents each.

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Bee-Keeper's Guide, or Manual of the Apiary, by Prof. A. J. Cook.—This book is instructive, helpful, interesting, thoroughly practical and scientific. It also contains anatomy and physiology of bees. 544 pages, 295 illustrations. Bound in cloth. Price alone, $1.20. With a year's subscription, $1.70. **Given free** for 4 new subscriptions at 75 cents each.

Langstroth on the Honey-Bee, revised by Dadant.—This classic has been entirely rewritten. Fully illustrated. No apiarian library is complete without this standard work by "The Father of American Bee-Culture." 520 pages, bound in cloth. Price alone, $1.20. With a year's subscription, $1.70. **Given free** for 4 new subscriptions at 75 cents each.

"The Honey-Money Stories."—A 64-page booklet containing many short, bright stories interspersed with facts and interesting items about honey. The scattered comb-honey misrepresentation is contradicted in two items, each occupying a full page. Has 33 fine illustrations of apiaries or apiarian scenes. It also contains 3 bee-songs. This booklet should be placed in the hands of everybody not familiar with the food-value of honey, for its main object is to interest people in honey as a daily table article. Price 25 cents. With a year's subscription, 90 cents. **Given free** for one new subscription at 75c.

Three copies for 50 cents; or the 3 with a year's subscription, $1.00; or the 3 copies **given free** for 2 new subscriptions at 75 cents each.

Amerikanische Bienenzucht, by Hans Buschbauer, is a bee-keepers' handbook of 138 pages, which is just what our German friends will want. It is fully illustrated and neatly bound in cloth. Price alone, $1.00. With a year's subscription, $1.50. **Given free** for 3 new subscriptions at 75 cents each.

THE EMERSON BINDER

A stiff board outside like a book-cover with cloth back. Will hold easily 13 volumes (26 numbers) of the American Bee Journal. Makes reference easy, preserves copies from loss, dust and mutilation. Price postpaid, 75 cents. With a year's subscription, $1.25. **Given free** for 3 new subscriptions at 75 cents each.

WOOD BINDER

Holds 3 volumes. Has wood back but no covers. Price, postpaid, 20 cents. With a year's subscription 80 cents. **Given free** for one new subscription at 75 cents.

BEE-HIVE CLOCK

A few of these handsome "bronze-metal" clocks left. Base 10½ inches wide by 9¼ inches high. Design is a straw skep with clock face in middle. Keeps excellent time, is durable and reliable. Weight, boxed, 4 pounds. You pay express charges. Price $1.50. With a year's subscription, $2.00. **Given free** for 6 new subscriptions at 75 cents each.

(Entered as second-class matter July 30, 1907, at the Post-Office at Chicago, Ill., under Act of March 3, 1879.)

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GEORGE W. YORK, Editor | CHICAGO, ILL., DECEMBER, 1908 | Vol. XLVIII—No. 12

Bountiful Crops and Low Prices

The following conundrum has been thrust at us:

"On page 335 Mr. Hershiser says: 'If we are to drop the price from 8 cents in the normal year to 6 cents in the bountiful season, when there is an increased crop of 50 percent, we have lost every advantage that was ours.' Please give us an example, and tell us how you figure that out. He also advises when one has too much honey and too little price to carry over to a year of scarcity. How can that be done with comb honey?"

As an example, suppose in a normal year one has 10,000 pounds of honey and sells it at 8 cents, it will bring him $800. If his crop is 50 percent larger it will be 15,000 pounds, which at 6 cents a pound will bring him $900, making a gain of $100 over the normal year with its higher price. Mr. Hershiser was no doubt speaking in general terms and in round numbers, not taking the trouble to make the exact price of 5 1-3 cents instead of 6. Or, possibly, there was a mistake in figures, 9 and 6 being intended.

As to carrying over to a year of scarcity, he was no doubt speaking of extracted honey. Yet even comb honey, according to some authorities, may be held over if kept in a place sufficiently warm.

Holding Over Comb Honey

The man who has a lot of extracted honey when prices are low, if there is a prospect of better prices a year later, has no hesitancy in keeping it over, for extracted honey is not a quickly perishing product. With comb honey the case is different. When cold weather comes, honey granulates in the comb, and freezing cracks the comb across the face of the sections. Either one of these makes the honey unmarketable. Yet it is possible to keep comb honey over in fine condition. It is simply a matter of heat. If it can be kept where the temperature stands at 50 degrees, there will be neither granulation of the honey nor cracking of the comb. It will also stand occasional severe freezing if part of the time the temperature be up to 90 or more. A small amount of comb honey can be kept in the kitchen. Notwithstanding the steam of the kitchen and the freezing at nights, the heating it gets in the day will make it keep all right. The higher up in the kitchen the better, because the heat is greater. Beside a furnace in a cellar it may keep fairly well, although in the average cellar without a furnace it will become watery and "weep" over the surface of the comb.

A few have reported fine success in keeping honey in the attic. That seems about as cold a place as one could desire, yet the honey was placed there as soon as taken from the hives, and with the hot sun upon it, it got such a roasting as to make the honey so thick before cold weather that freezing did not affect it.

Queenless Colonies

About this time of year some beginner is pretty sure to be anxious as to a colony that is queenless, or that he suspects is queenless because he finds present no eggs or young larvæ. There is nothing abnormal in the absence of eggs or brood. In the natural course of events the queen ought to have stopped laying some time ago, and it is generally unadvisable at this time to disturb a colony by making any inspection. Hardly worth while to look for the queen. She is now small and hard to find. Of course, if you happen to see her you may feel relieved, but if you don't see her you will not dare to take any steps, for you cannot be certain that a queen is not present. If the colony is in good condition, let it alone till spring, and then you can tell by the presence or absence of eggs and brood whether anything is to be done. Of course, if you *know* that you have a queenless colony, better unite at once with some other colony. This you can do by simply placing in the queen-right colony the combs containing the bees of the queenless colony.

Care of Combs

The Canadian Bee Journal gives some advice as to this which has the merit of being more specific in detail than such things sometimes are. One is just a bit inclined to raise the question whether *comb-honey* supers are really meant, or extracting-supers. Certainly the latter generally need the greater care, there being less danger of trouble coming to whatever may be left in the former. At any rate the advice is good for either. Here is the item:

"When putting away your comb honey supers, disinfect them with carbon bisulphide to kill all moths. Pile them up 5 or 6 high and place a saucer about half filled with acid, and put an empty comb-honey super on top and cover up well. The acid will evaporate and, being heavier than air, will go down. It will kill everything—ants, spiders, moths and moth's eggs. Your combs will come out beautiful and clean in the spring."

Michigan's Raspberry Pastures Are Burned

Under the above heading the Bee-Keepers' Review contains 4 pages of intense interest, albeit the editor paid a high price for the material with which to write the sketch. If any bee-keeper has felt envious of his brethren within reach of the fine raspberry lands of Northern Michigan, he will feel little of envy after reading the terrific struggle Editor Hutchinson and his brother had with the forest fires. It seems there was an unusual combination of circumstances this year: first, "a long drouth, then a spell of very hot weather, and, lastly, what might almost be termed an electrical condition of the atmosphere."

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Of their 5 apiaries in the fire district, only 2 colonies were burned, which Editor Hutchinson says "seems little less than a miracle, and is the result of constant watchfulness, terribly hard fighting, 'back firing,' and a mixture of what, at times, does seem like 'luck.'"

A lot of money was spent in getting these 5 yards nicely located, cellars and honey-houses built, and all was ready for some money to be made, when at one fell swoop the fire came down with heavy if not complete loss of pasturage. Mr. Hutchinson feels inclined to agree with Mr. Coveyou, who thinks it would have been better if the bees had been burned up and the pasturage left; for bees can easily be replaced, while a lot of bees with no pasturage presents a difficult problem.

Whether raspberry plants will spring up again from the roots is a question, as the roots may be too deeply burned. Even if new growth springs up, that will do no good for the season of 1909, for the canes that spring from the roots one season do not blossom till the season following.

Let us hope that in some unexpected way good may spring out of what now seems only evil. Just possibly that follower of fires—willow-herb—may spring up in abundance with its honey of finest quality.

Age of Queens

J. M. Ellis, says this in the British Bee Journal:

"By the way, it was noticeable that colonies headed by 1907 queens, whether black or yellow, gave the poorest returns. Possibly the untoward conditions prevailing last year adversely affected the upbringing of those queens."

It seems a reasonable thing that queens reared in a prosperous season would be better than those reared when little was doing in the way of gathering. The question also may be asked whether Mr. Ellis will not find it a general rule that queens in their first year do poorer work than when older. If those 1907 queens were reared after the honey harvest was under way, as they probably were, the chief part of their work in 1908, so far as it would have any eeffct on the current honey harvest, would be before they were a year old.

Formerly it was generally held that a queen did her best work in her second year, and many still hold to that view. Others, however, prefer younger queens. Possibly both are right, the difference being in the different strains of bees. Suppose we have a strain of bees whose queens live to an average of 3 years. It could easily be that the second year of a queen of that strain should be her best; while queens averaging only 2 years of life would hardly be expected to do so well in the second year as in the first.

The matter of longevity of bees is in more ways than one a thing worth attention.

Bees as Weather Prophets

An article in the Boston Traveler regarding the forecasts of the weather made by dogs, cats, birds, etc., gives the bee a high place as a weather prophet. It says:

"Insects, also, are very sensible of changes of weather. The surest sign of rain is given by bees. As soon as rain impends, they either remain in their hives or fly out only to a short distance."

There is enough truth in that statement to help it to make a very false impression. Bees may remain in their hives when rain impends, and for much the same reason that they remain in their hives as day closes; simply because of the darkness. A sudden clouding up will send the bees scurrying home at a lively rate, but that is no sure sign of rain, for it may not rain at all. On the other hand, they will often keep on flying during quite a bit of a shower.

Ventilation to Repress Swarming

If there were any question as to the swarming of a certain colony, one might make pretty sure of it by giving a very small entrance and allowing no other opening for the admission of air. So in order to limit swarming, at present there is a tendency to larger openings as entrances, also a tendency to a larger space under the bottom-bars. Not only this, but some think it wise to make provision for more or less ventilation in each extracting-super. R. F. Holtermann says in Gleanings:

"I have a ¼-inch by 5-inch opening for ventilation in three-fourths of my extracting-supers, which can be closed by means of a slide. I find the ventilation given in this way is a great comfort to the bees during hot weather. During the time the bees are gathering surplus honey there is no great difficulty in keeping up the temperature of a normal colony. I feel quite sure, backed up by examination, that the bees are sometimes driven out of portions of the hive and compelled to remain idle, owing to excessive heat or lack of ventilation in the hive. Shade and a *large* entrance have, of course, an effect similar to the super ventilation. However, I like to be able to use all in combination."

An easier way to provide ventilation for colonies run for extracted honey is simply to shove backward or forward each story, so as to make a crack of about ¼ inch. There is probably little question that ventilation thus provided for each story goes a long way toward the prevention of swarming. On a cool night such openings may be objectionable, but this is overbalanced by their benefit during the greater part of the time.

"Will not such openings be used by the bees as entrances, making trouble when they are closed?" One might think so, but experience shows that the bees rarely go in or out at such openings. Having already established the one place as the proper entrance, they do not seem inclined to accept any new opening offered later.

"Will not so many openings invite robber-bees?" If you were to make some fresh opening at a time when robbers are troublesome, you might be pretty certain it would attract their attention. But the ventilation in question is not given until a full flow is on, and at such times robbers are not troublesome. Even if such openings are left until all storing ceases, robbers seem to consider them as the established order, and do not seem to consider them in the light as if they were freshly made.

All this applies to the extracted-honey business. With comb honey the case is different. Make a large opening between two extracting-supers, and if the bees will not seal the honey there it makes little difference. Indeed if they refuse to store at all at such large opening, they can store elsewhere, and the honey will be extracted all the same. But it will not do to hinder the bees from capping sections. Yet there are even some producers of comb honey who consider the advantages of a reasonable amount of such ventilation—at least at certain times—to overbalance their disadvantages. The lower super is shoved forward, allowing a quarter-inch crack. This is supposed to allow a passage of air through the brood-chamber, but no such opening is made between any 2 supers as in the case of extracted honey. This opening, for some reason, does not make nearly so much difference early in the season as it does later, so as the season advances it is advisable to close the upper opening.

Holiday Greetings

We wish to each and all of our readers a "Merry Christmas" and a "Happy New Year." And may 1909 be the brightest and best of all your years thus far, is our next wish.

Our Annual Index

This will be found near the end of this copy. It is a great list of apiarian contributors and topics. To any one who has preserved all the numbers of the American Bee Journal for 1908 the index will be very valuable. Such will no doubt appreciate it fully. It means a lot of work to prepare it, but it is worth while, we think.

Miller Tent-Escapes and Young Bees

In Gleanings the question was raised whether there would not be loss of the younger bees from the use of the Miller tent-escape. Supers partly cleared of bees are piled up, 5, 10, or more in a pile, and the Miller escape is placed on top. This escape is simply a robber-cloth with a good-sized cone of wire-cloth. The bees can come out freely at the top, and the objection was raised

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that among these would be some which had not yet marked their location, and these would not find their way home. Testimony was called for, and among those who reported there was no one who had noticed any loss, all saying there was none. It is very likely, as claimed, that very young bees that have not yet marked their location are not found in supers, as such bees are to be found only on the brood-combs.

APIARY OF C. B. PALMER, OF BRADSHAW, NEBR.

Apiary of C. B. Palmer

I am sending a photo of my bee-park. This is the yard from which I took 1500 sections of honey. I had 14 colonies in 1907, and this photo was taken Aug. 1, 1908. You can see we are just commencing to build up for the heartsease, as we have a complete failure so far this season from white clover. It rained constantly in June.

The hives face the east, and you are looking southwest. Commence with the hive with black center and count west. There are 7 in this row. These were all requeened last season. You can see from the extra supers on this row that it pays to requeen, as they are working in the second and third supers now. The other hives have on mostly one cap, and have old queens, and should have been requeened last summer. No queen in the yard has cost more than $1.00, and the tall hives show that it is the best $1 that can be invested in the whole yard.

This piece of ground (2 common village lots, 100x140 feet) is set with fruit trees 10 feet apart, and the bees have paid for the ground in one season. The trees have been set 4 years, and are peach, apricot, cherry, apple, and Kelso Japan plums. C. B. PALMER.

Bradshaw, Nebr., Aug. 14.

It Pays to Advertise Your Honey

One of our honey-advertisers when remitting to us for his advertising recently, had this to say:

"I consider this money a good investment, as I have been able to sell my crop (6000 pounds) for ½ cent to 2½ cents per pound more than some of my brother bee-keepers."

For a number of years we have been urging bee-keepers who have more honey than they can use in their home market to offer it through the advertising columns of the American Bee Journal. As indicated by the foregoing unsolicited testimonial, it shows that we have been right in such urging. Of course, the bee-keeper who advertises honey for sale must have the very best honey, and take care of his orders in a businesslike way. We have no doubt that if such advertising is continued from year to year, a large shipping demand can be developed. In every instance, however, in order to get increased orders for honey, it must be of good quality and give entire satisfaction.

There are, no doubt, many bee-keepers throughout the country that would find it to pay nicely to offer their surplus honey crop through the advertising columns of the bee-papers, especially extracted honey. We hope that more of our readers will follow this plan hereafter.

Home Apiary of A. Rehnstrom & Sons

The picture I send is the home apiary of August Rehnstrom & Sons, in its 46th year. The person to the left in the picture is Aug. Rehnstrom, and the two to the right are the sons.

APIARY OF A. REHNSTROM & SONS, OF ANDOVER, ILL.

We have 54 colonies, all run for section honey. We use the 10-frame dovetailed hives with Hoffman frames, and the 1⅝ plain sections with fences.

The bees are wintered out-doors on the summer stands. We give them ventilation by tacking burlap on a super and filling the same with dried leaves, placing 2 sticks between the frames and the burlap for bee-space. We have never lost a colony thus treated. No disease ever existed in this apiary. We have fed our bees for winter. They work for nothing, board themselves, and give us the surplus.

Next year we are going to run all our colonies for extracted honey. Our bees are mostly Italian.

We have a great deal of red and sweet clover, but our main honey-flow is white clover. We sell all of our surplus honey to our neighbors, and could sell more if we had it, as we have never been able to supply our home trade.

Five years ago, A. N. Cook, of Woodhull, persuaded me to subscribe for the American Bee Journal. I didn't care very much about it at the time, but I have learned to appreciate the paper so much during the time that I would not do without it at any price.

S. REHNSTROM.

Andover, Ill., Sept. 17.

Scott and Barrett Apiaries

On page 330 of last month's American Bee Journal we got the names of the owners of two California apiaries exchanged. The picture over J. L. Scott's name should be over Mr. Barrett's name, and *vice versa*. We regret the error very much.

"Hawaiian Honey"

This is the title of Bulletin No. 17 of the Hawaiian Agricultural Experiment Station, by D. L. van Dine, Entomologist, and Alice R. Thompson, Assistant Chemist, and issued by the U. S. Government. While bees visit a large number of plants in Hawaii, the great bulk of the honey gathered by them may be classed either as algeroba honey, gathered from the algeroba tree; or honeydew, which comes mainly from a viscid saccharine secretion of the sugar-cane leaf-hopper and the sugar-cane aphis, deposited on the surface of the leaves of the sugar-cane. The total crop of honey in 1906 was 600 tons, one-third of which was algeroba honey and the remaining two-thirds was either a dis-

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tinctly honey-dew honey or honey-dew honey and floral honey with decided honey-dew characteristics.

Analysis shows the remarkable fact that none of this honey comes within the official designation of honey of the United States Department of Agriculture. This says that honey "contains not more than 25 percent of water, not more than 25 percent of ash, and not more than 8 percent of sucrose." In Bulletin No. 17 is given a table of analysis of 54 samples of algeroba, honey-dew, and mixed honeys. As to amount of water, they show up well, some honey-dew honey having as little as 15.31 percent of water, the highest being a sample of algeroba with 20.43 percent. As to sucrose the showing is also good, ranging from 1.4 to 7.2 percent. But the ash business is what makes the trouble, for instead of keeping down to .25 percent, no sample shows less than .33, that being an exceptional sample of ohia lehua, and one sample of honey-dew reaches 2.10 percent. Algeroba ranges from .44 to .58 percent of ash.

Yet there seems to be place for Hawaiian honey, for we learn from the bulletin that algeroba honey is nearly water white in color, and its delicate flavor recommends it for table use. Also that more than 50 percent of the honey produced in the United States is used in the baking and confectionery trade, and that buyers "assert that Hawaiian honey-dew honey has better baking and boiling properties than the higher grade algeroba honey, and one local company received from one-half cent to 1 cent more per pound for their honey dew honey than they did for the algeroba product of the 1906 crop."

Apiarian Exhibits at the Indiana Fair

At the Indiana State Fair for 1908, Mr. George DeMuth, of Peru, Ind., was the judge. The premiums awarded were as follows:

Comb honey—1st premium, Walter S. Pouder; 2d premium, The C. M. Scott Co.; 3d premium, M. J. Leavitt.
Extracted honey—1st, George M. Rumler; 2d, The C. M. Scott Co.; 3d, Walter S. Pouder.
Beeswax—1st, Walter S. Pouder; 2d, The C. M. Scott Co.; 3d, M. J. Leavitt.
Honey-vinegar—1st, George M. Rumler; 2d, M. J. Leavitt; 3d, Walter S. Pouder.
Italian bees—1st, Walter S. Pouder; 2d, George M. Rumler; 3d, The C. M. Scott Co.
Foreign bees—1st, Walter S. Pouder; 2d, M. J. Leavitt; 3d, George M. Rumler.
Bee-supplies—1st, Walter S. Pouder; 2d, The C. M. Scott Co.; 3d, J. O. Vannice.
General display—1st, The C. M. Scott Co.; 2d, Walter S. Pouder; 3d, George M. Rumler.

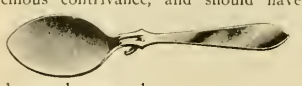
We were misinformed through one of the agricultural papers of Indiana, which announced that another bee-supply firm had received first prize on display of bee-supplies at the Indiana Fair. They received the first prize on general display, not on bee-supplies, as will be noted among the above list of premiums. Walter S. Pouder, of Indianapolis, was the winner of the first prize on bee-supplies. He handles the A. I. Root Co's line of goods, which he has represented in Indianapolis for many years.

Such displays are indeed an attraction to any fair, and they also should increase the demand for honey. Perhaps no better advertising can be done than through exhibits of this nature, either at fairs or even in grocery stores.

We are always glad to mention in these columns any one who is up-to-date enough to take advantage of such opportunities of getting the honey-business before the public.

A New Honey-Spoon.

Over in England they have invented a new honey-spoon—or at least a device in its handle that will prevent it from getting down into the jar of honey on the dining table, thus avoiding sticky fingers and spoilt table-cloths. It is a very ingenious contrivance, and should have



a large sale among honey-consumers, especially bee-keepers. It is well plated on high-class nickel. We have secured some of these very unique spoons, and will mail them at 90 cents each. Or, we will send a spoon and the American Bee Journal one year—both for $1.50. It would make a fine gift.

A Bee-Talk in Day-School

The editor of the American Bee Journal was invited to give, on the afternoon of Nov. 4, a stereopticon lecture on bees and bee-keeping in the John C. Coonley public school, here in Chicago, of which Miss Cora E. Lewis is the very efficient and popular principal. He had some 60 slides, which were thrown on the screen to the great delight of 750 pupils—400 of the 6th, 7th, and 8th grades being present the first half-hour, and the balance of 350, of the 4th and 5th grades, following. So the same talk was really given twice. And all seemed to enjoy it very much.

Preceding each talk some of the pupils sang several bee-songs, which were especially well rendered, Miss Ethel Sherlock, one of the grade teachers, accompanying them on the piano.

We believe this is the first time a lecture of this kind has been given in the Chicago public schools. Bees are indeed a fine nature study, and boys and girls, as well as grown-ups, are always interested in anything relating to them.

We should be pleased to arrange with any schools or other organizations that can supply the stereopticon, to give this illustrated talk on bees and honey.

The Illinois State Convention

This was held Nov. 19 and 20, in Springfield. It was the best and perhaps the largest meeting the Illinois State Bee-Keepers' Association ever held. Dr. C. C. Miller and the editor of the American Bee Journal attended; also R. A. Holekamp, of St. Louis, Mo.; H. W. Lee, of Pecatonica; and W. B. Moore, of Altona, Ill., president of the Western Illinois Bee-Keepers' Association, all of whom were delegates.

A full report of the proceedings will be published later in pamphlet form, including those of the Chicago-Northwestern Association also.

The officers elected at Springfield for the ensuing year are as follows:

President, J. Q. Smith, of Lincoln; 1st vice-president, Geo. W. Cave; 2d, W. H. Hyde; 3d, A. L. Kildow; 4th, S. N. Black; 5th, C. P. Dadant. Secretary, Jas. A. Stone, Rt. 4, Springfield, and treasurer, Chas. Becker, of Pleasant Plains.

Every bee-keeper in the State of Illinois should send Secretary Jas. A. Stone, Route 4, Springfield, Ill., his or her $1.00 for dues, which pays a year's membership in the State Association and also in the National. Why not do this *at once*, if not a member, and get the fine annual reports?

National Election Result.

We have received the following report of the election held during November, 1908:

We, the undersigned, have counted the votes cast for the election of officers for the National Bee-Keepers' Association for the year 1909, and certify the following report is correct:

Whole number of votes cast for President, 1060, of which 711 are for Geo. E. Hilton, 343 for George W. York, and 6 scattering.

Whole number of votes cast for Vice-President, 1040, of which 702 are for George W. York, 331 for Geo. E. Hilton, 9 scattering.

Whole number of votes cast for Secretary, 1060, of which 751 are for E. M. Hunt, 299 for Jas. A. Stone, 10 scattering.

Whole number of votes cast for General Manager, 1050, of which 1023 are for N. E. France, 20 for L. Werner, 7 scattering.

Whole number of votes cast for Directors, 3140, of which 919 are for R. L. Taylor, 877 for E. D. Townsend, 723 for Udo Toepperwein, 243 for W. H. Laws, 164 for H. A. Surface, 172 for E. Whitcomb, and 12 scattering.

Flint, Mich. W. Z. HUTCHINSON, *Sec.*

The 4 officers for 1909 and 3 directors elected for 3 years are these:

President—Geo. E. Hilton, Fremont, Mich. Vice-President—George W. York, Chicago, Ill. Secretary—E. M. Hunt, Lansing, Mich. Treasurer and General Manager—N. E. France, Platteville, Wis.

Directors—R. L. Taylor, and E. D. Townsend, of Michigan; and Udo Toepperwein, of Texas.

Chicago-Northwestern Convention.

This was held in Chicago, Dec. 2 and 3, at the Briggs House, as usual. It was well attended, and one of the most interesting meetings this Association ever held. Among the leading bee-keepers present were, Dr. C. C. Miller, C. P. Dadant, F. Wilcox, R. L. Taylor (Michigan), Wm. M. Whitney, M. M. Baldridge, Dr. G. Bohrer (Kansas), E. J. Baxter, N. A. Kluck, J. C. Wheeler, and Miss Mathilde Candler. At some sessions there were from 60 to 75 present. The question-box program was used throughout the meeting, and again proved its great value.

A full short-hand report was taken, which will be published in connection with the Illinois State report. The Chicago-Northwestern joined both the National and Illinois State Associations in a body, so that each member will get the two reports. Every bee-keeper who desires to become a member of all three associations is invited to send a dollar to the secretary mentioned below for annual dues.

The officers of the Chicago-Northwestern Bee-Keepers' Association, all being re-elected for the ensuing year are: President, George W. York, of Chicago; vice-president, Miss Emma Wilson, of Marengo, Ill.; and secretary-treasurer, Herman F. Moore, of Park Ridge, Ill.

American Bee Journal

Conducted by EMMA M. WILSON, Marengo, Ill.

September Swarms.

"Mrs. Walker and Miss Bateman," says the Irish Bee Journal, "both of South Devon, had swarms from two colonies on Sept. 30th." Now does that mean that our Irish sisters are behind their brethren in getting this year's swarms finished up, or are they so much ahead that they have started in on swarming for next year?

Beeswax Wood-Polish.

Gleanings having recommended beeswax and turpentine in a thin paste, the Irish Bee Journal thinks its own recipe better for furniture polish, viz:—4 oz. each beeswax, whitewax, and Castile soap. Cut very fine and dissolve in 3 pints of boiling water. Then add 1½ pints of best turpentine. Rub on with one cloth; rub off with another; polish with a third. If found lumpy, stand the jar of polish in boiling water before using it.

Honey as Food and Medicine.

Do the bee-keeping sisters that have children place anything like the value they should upon honey as a food and medicine for them? No less an authority than the editor of the British Bee Journal, speaking of honey-tea as invaluable for dyspepsia, bronchitis, consumption, and other afflictions, says:

"A man in our employ had a dying child, the case having been given up by the doctor as hopeless. We gave the mother some honey, with instructions to give a small quantity of it diluted with water at frequent intervals. The child not only recovered, but got so fond of honey that this became its principal article of food, and it grew up to be strong and healthy."

Bee-Gloves and Clean Hands.

The probability is that a much greater proportion of the sisters than of the brothers wear gloves when working with bees. This will no doubt suggest the thought that the sisters are more afraid of stings than the lords of creation. But gloves are not worn by the sisters entirely as a protection from stings. At least some of them care more for gloves as a protection against propolis than as a protection against stings. A woman probably becomes immune to stings as quickly as a man. But she does not so quickly become immune, if she ever does, to the unpleasant feeling of having soiled or rough hands, and to many the feeling of hands soiled with propolis is extremely disagreeable.

Some of the brethren may say, "But nowadays there are soaps that easily remove the last vestige of bee-glue." My much-respected brother, any soap strong enough to take off propolis easily is strong enough to leave a woman's hands not in the very softest condition. And the daughters of Eve are not entirely unconcerned as to the appearance of their hands. Neither is it entirely a matter of looks. Let a woman undertake to sew upon some fine fabric, as silk, and the discomfort and hindrance of roughened fingers will appeal to her, even if she could stand the matter of looks.

Value of Dandelion Bloom.

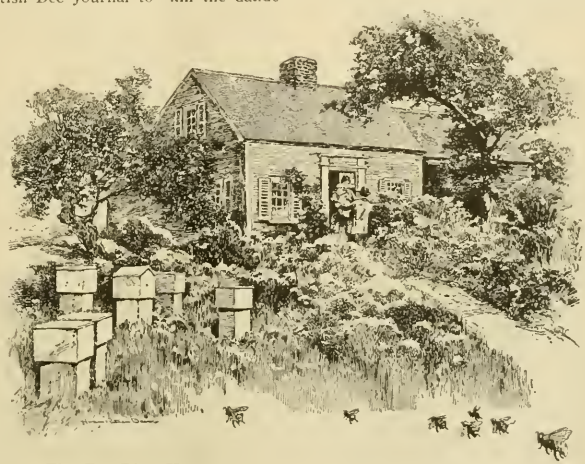
Mrs. Mary Spencer advises in the British Bee Journal to "kill the dandelions by putting a pinch of salt into the cavity made by cutting the crowns of the plant," in order to plant something else for the bees that at the same time would be pleasing to the eye.

In Marengo we value dandelions very highly. Any thing else that we could put in their place would not be one-tenth of the value to the bees that the dandelions are, and they come at a time when they are most needed to help build up for the harvest. And, really, there is nothing unsightly about them; a dandelion in full bloom is a thing of beauty.

A Sister An Extensive Bee-Keeper.

The Canadian Bee Journal contains a very interesting account of Miss Inez Cooley, whose musical education was cut short by the death of her parents, and she succeeded her father in the charge of the bees, which she has now managed for something like 12 years, having at the present time between 500 and 600 colonies. It certainly seems strange that we have not heard more of a sister keeping bees on so large a scale. She says:

"As to the yield of a colony, it is hard to make any definite statement. I believe for a summer's product a colony may be counted on to produce between 75 and 100 pounds of honey. In such a climate as we have there are many instances where a single Italian col-



The Bee-Line Home.

BY THERON BROWN.

I suck the dews of May and June
When blossom-time is young;
All summer long you hear my tune
In spicy gardens sung;
September days I swim amid
The buckwheat's milky foam,
But—never lost and never hid—
I know the bee-line home.

Sometimes where plum or peach begins
To blush I love to stay,
Or pasture-mint or thistle wins
My flight a mile away.
A thousand circles I describe,
Yet never where I roam
Forget my master and my tribe,
Nor miss the bee-line home.

Praise pinks and milkweeds to the bee,
Wild rose and goldenrod,
Or call the fragrant basswood-tree
The honey-maker's god.
But banks of bloom could ne'er delay
The call that bids me come,
Nor tempt the hive-born heart astray
That knows the bee-line home.

There brim the crystal nectar-cups,
The pollen cakes are clean,
There, soothed with tender music, sups
The brown-eyed castle queen.
What wonder that I longing seek
My walls of flowery comb
And quit the balmiest posy's cheek
To wing the bee-line home?

Ye bees that walk on human feet,
You hurry everywhere,
But straight for you a shining street
Leads homeward through the air.
To find it in your evening flight,
Unlost amid the gloam,
Have you the light that burns at night,
And shows the bee-line home?

—Christian Endeavor World.

American Bee Journal

ony has produced a thousand pounds of first-class honey in a season. Although the yield of honey in California is enormous and every year increasing, there is always a steady demand at a good price."

Isn't that painting the thing in rather high colors, both as to average and maximum yield? For years the only yield of 1000 pounds reported from a single colony was from a Texas colony; and even that has been accepted with a grain of salt. At any rate the editor of Gleanings lately gave considerably less than 1000 pounds as the highest yield on record from a single colony.

Speaking of the queen, there is the following admirable passage:

"There is not the slightest danger of not knowing royalty among bees. Once beheld, the queen can never be mistaken for either of her plebian subjects, the drone or the worker. Not only is she far more elegant in shape and brilliant in coloring, but she has the distinctive habit of crossing the tips of her wings. It always reminds me of the helpless manner which some women have of disposing of their hands."

Isn't that last sentence a really feminine touch? How many of those who have handled queens by the hundred would tell you offhand that their wings were disposed in an exceptional manner?

Foul Brood — Best Size of Hive— When to Put on Supers—Smoker-Fuel—Superseding Queens— Age of Queens.

DEAR MISS WILSON:—1. How can you tell when foul brood is among the bees?

2. What size boxes or hives are best to keep bees in? And what make is the best?

3. How soon do you put on the supers in the spring?

4. What is best to put in the smoker for smoking the bees?

5. Is it best to remove the queen at a certain age, or let her remain with the bees until she dies or is killed by a queen-bee?

6. How long does a queen-bee live if not killed?

I have 3 colonies of bees. I got no honey for ourselves but have an abundance for the bees. Our hives were too large.

I am taking the American Bee Journal, and like it very much. MRS. C. P. DAY.

Bloomington, Ill., Oct. 19.

1. Look at the brood. If there is coffee-colored, rotten brood, stick a toothpick into it, and if there is foul brood it will string out an inch or so before it breaks when you withdraw the toothpick. The smell is very disagreeable—called a gluepot smell. If you have the least suspicion of foul brood, better get a pamphlet on the subject, also send a sample to N. E. France, Platteville, Wis., General Manager of the National Bee-Keepers' Association. If not a member, better send a dollar to him and become one.

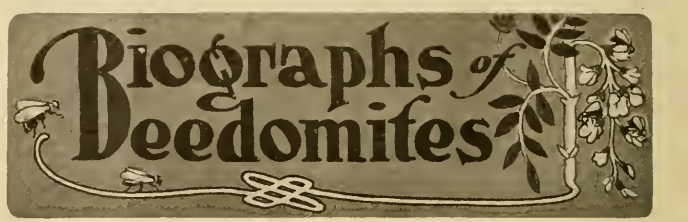
2. For extracted honey the 10-frame dovetailed hive. The same for comb honey unless you expect to give the closest attention to your bees, in which case the 8-frame hive may be better.

3. About 10 days after the *very first* white clover bloom is seen.

4. There is such a variety of good smoker-fuels that it might be hard to say which is best. One that is very good and easy to obtain is hard-wood chips from the chip-pile. Use a piece of saltpeter rag to start the fire, then fill up your smoker with rather small chips, and you will have a smoke that will be good, and last for some time. If you have no chip-pile, cotton rags are good. Cotton-waste from machine shops is greatly liked by some. Planer shavings are also used—in fact, almost anything that will burn slowly, and make a good smoke.

5. If the queen is poor or in any way objectionable, better remove her at once, without regard to her age; on the other hand, if you have an exceptionally good queen, you will want her to live as long as she does good work, or until the bees supersede her. Some think it best to replace queens when 2 years old; others think it best to leave the matter entirely to the bees.

6. In rare cases they may live to 5 or 6 years old; generally not more than 2 or 3.



E. W. ALEXANDER.

A few years ago there appeared on the horizon of beedom a figure that was destined soon to loom larger as the nearer it was approached and the better it was seen and known. That figure was E. W. Alexander, who, we believe, was first discovered by Editor Hutchinson, of the Bee-Keepers' Review, for which bee-paper he began to write, and later for Gleanings in Bee Culture.

It seems that Mr. Alexander became famous partly from the fact that he kept successfully about 700 colonies of bees in his one apiary. His nectar-sources, his brilliant methods of manipulation and general apiarian management were such that he was able to do, in his locality, what perhaps no other bee-keeper could do in any other place.

But, unfortunately, Mr. Alexander was not long for this world. He had only begun to contribute to the literature of bee-keeping, and had he been spared, no doubt from his ripe and extensive experience he would have been able to give to the bee-keeping world many more of his valuable methods used in the production of extracted honey. But he is gone. His good influence, however, will be felt for many years among those who knew him best, and the excellent descriptions of his own methods of bee-keeping and honey-production will forever adorn the pages of the bee-literature of his time.

Rev. D. Everett Lyon, a personal friend of Mr. Alexander, was requested to speak at the funeral service. He did so, and soon afterward wrote the following for Gleanings in Bee Culture, which was published in the October 15th number:

IN MEMORIAM OF E. W. ALEXANDER.

On Saturday, Sept. 19 there passed from earth to heaven in the death of E. W. Alexander, of Delanson, N. Y., not only a prince of bee-keepers but also one of the purest and most sympathetic of men who ever lived. For many months this kind-hearted man was a great sufferer from an abdominal affliction; and when the end came it was to him a welcome release from his untold suffering. The end came not to our brother as a surprise, but was the culmination of his expectation, and the summons found him with his spiritual house in order, ready to receive his well-merited reward.

For a year or more he often expressed to his devoted wife the desire that the writer might officiate at his funeral, and preach the sermon; and when the telegram called me to Delanson for that purpose I felt that it was a sacred duty that could not be ignored.

Leaving home immediately at the close of my Sunday-evening preaching service on Sept. 20, I arrived at Delanson the following morning, and proceeded at once to the house of mourning. Our dear brother had but recently purchased a beautiful little home, and it seemed strange providence that he at only 63 years of age should so soon be carried from it.

When the hour of the service arrived, a vast throng of people crowded in and about the home to pay a last tribute of respect to one esteemed, and an honor to the community in which he resided. Though a great sufferer in the last few months of his life, yet in death his face seemed singularly peaceful, with just a trace of that genial smile that made every one feel that he was their friend.

I felt it a great honor to be permitted to stand beside his coffin and speak of his many virtues, and refer to his beautiful Christian character. After the service his three sons—Frank, Fred and Bert—and his devoted son-in-law, acted as pall-bearers, at their father's request, and tenderly carried his remains to the waiting hearse.

A ride of four miles brought us to the beautiful cemetery at Esperance, where his poor tired body was laid at rest to await the resurrection of the just; and as I turned from the grave I felt that the bee-keepers had sustained a great loss in the death of such a friend.

May I be permitted to say a few words of appreciation concerning one who, as a bee-keeper, was a prince among us—the greatest Roman of us all—a very Gamaliel at whose feet we learned so much? Let me speak of him, first, *as a man*.

E. W. Alexander was every inch of him a man. Everything that was mean and base he spurned with contempt, while every thing high and noble found in him its earnest advocate.

Like Longfellow's blacksmith, he could "look the whole world in the face," so pure and upright was his character.

Singularly sympathetic, he had a kind word for every one, and special sympathy for the man who was down and out.

All the years of valuable experience as a bee-keeper, much of it the result of costly experiment, he freely gave to his fellow bee-keepers, and nothing delighted him better than to see the success of others.

As a bee-keeper remarked to me after the service, "He was a great reference-book for us all." Yet withal he was the most modest of men, and, though deeply touched by Dr. Miller's recent note, that he, as one of the rank and file, saluted him in his triumphant march to receive his crown of rejoicing, he said to his wife, "That was very kind of Dr. Miller, but, really, I don't deserve it."

Second, *as a bee-keeper*. Our friend was a truly great bee-keeper, not so much from the fact that he managed with his dear son, Frank, the largest apiary in the world in one

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yard, as that his management was so thorough and systematic, as based upon such a complete knowledge of the habits of the bee.

If for no other reason, his method of treating weak colonies in the spring, and other helpful suggestions, have placed the bee-keeping fraternity under lasting obligation to revere his memory.

As a frequent visitor to his apiary I can positively assert that all the wonderful achievements ascribed to him were literally true, as he was successful in every sense of the word.

It often pained him that others questioned the merit of some of his methods, notably that of strengthening a weak colony by placing it over a strong one, but he would frequently point out where failure was the result of bee-keepers overlooking some little though essential detail.

Every plan he suggested was the result of successful experiment, and he was actuated solely by a sincere desire to see his fellow bee-keepers succeed; in fact, the success of others was a passion with him.

What he has done for the bee-keeping world entitles him to a place with Langstroth, Dadant, Dzierzon, and other stars of the first magnitude.

Third, *as a husband and father.*

It has been my privilege as a clergyman to enter many homes in various parts of the country, and yet I must say that, for happiness, harmony, and contentment, the home of our brother was an ideal one. He loved his home, his wife, and his children. On the occasion of a visit he related to me with much pardonable pride the satisfaction he felt in the fact that his children were all doing well, and that none of them had ever caused them a heartache. What a comfort this must be to his sons—noble, manly fellows, every one of them—and to his devoted wife and daughter! It is such sweet homes as this that constitute the bulwark of our national righteousness.

In closing, I desire to speak of our brother, fourth, *as a Christian.*

Brother Alexander was not only a Christian by profession, but, best of all, he lived the Christ life, and followed the example of his Savior, who "went about doing good."

Our friend made no loud profession; but everybody knew that he loved God with all his heart and his neighbor as himself, and Christ said this was the sum total of religion.

A few days before his death, his dear wife, one of the biggest-hearted and most motherly of women, played on the organ, and sang, at his request, his two favorite hymns, "Jesus, Lover of My Soul," and "Nearer, My God, to Thee;" and when she finished he requested that she sing them over again, which she did, to his great satisfaction.

The day before his death he turned to his wife and said, "Oh, wouldn't it be nice if, when the end comes, I could just go to sleep?"

Truly, with Paul he could say, "I am now ready to be offered, and the time of my departure is at hand. I have fought a good fight, I have finished my course, I have kept the faith; henceforth there is laid up for me a crown of righteousness which the Lord will give me at that day; and not unto me only, but unto all them also who love his appearing."

Among those present was Mr. N. D. West, of Middleburg, N. Y., who, in the past few months, has been a frequent visitor to the Alexander home, and who, like the writer, felt most deeply the loss of a true friend.

"E. W. Alexander, hail and farewell." "We will meet thee again in the dawn of the resurrection morning."

The bereaved family have the sympatbetic prayers of the bee-keeping brotherhood.

Whatever provision our dear friend has made for his family is as nothing compared with the priceless legacy he has left them of an honored life. If I were to choose the epitaph to be placed upon the stone to mark his last resting-place, it would be this:

"His life was beautiful,
His work enduring,
His death triumphant."

Courtesy of Bee-Keepers' Review.

Report of the Chicago-Northwestern Bee-Keepers' Convention.

(Continued from page 342)

EXHIBITS TO HELP HONEY DEMAND.

"Is there not some way for this Association to exhibit at the Food Shows given in Chicago, and thus help the demand for pure honey?"

Mr. Boyden—I do thoroughly believe that there is a place for us to advertise honey at these shows. I understand

PART OF 700-COLONY APIARY OF THE LATE E. W. ALEXANDER, OF DELANSON, N. Y.

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that Mr. France and Mr. Hutchinson were a little bit discouraged at the recent World's Food Show. I think with more experience they will get better results. I believe it can be done. They had no bees there this year. I know bees will always attract considerable attention. I think there should be bees shown.

Mr. Arnd—I sent some honey for that exhibit. I received a very nice letter the other day, saying that they were much pleased with the exhibit, and had many inquiries as to where they could get pure honey in Chicago. It was an exhibit where no one advertised his own honey. Each simply mentioned the place where the honey came from.

Mr. Wheeler—I helped Mr. France a little at the exhibit. I think it is a good thing, but I think it might be carried farther. I think a demonstration of honey would be a good thing. Mr. Hutchinson intended to bring some bees, but something happened to them.

Mr. Duff—Mr. Hutchinson said little, but I think he was disappointed with it. I was disappointed with it. It didn't impress me very favorably.

Dr. Bohrer—I received a communication from Mr. France asking for honey to be put on exhibition, and I told him that I had no honey good enough.

Mr. Whitney—I visited that exhibition and had a conversation with Mr. France. I was disappointed at the interest people seemed to take. I said I was disappointed that the exhibition did not attract attention, and it is my opinion that this is no place for an exhibit. If there had been an observatory hive of bees there, or some queens, it would have been better.

Mr. Chapman—I believe an exhibit of that kind would be more attractive by showing some uses of honey, as at the Chicago Corn Show, where demonstrations of the use of corn-meal, etc., were made. Few families use honey in cooking. If we could have demonstrations of honey in cooking, it would add to the interest. You would thus open up a new field for the use of honey.

Mr. Arnd—No bee-supplies were exhibited.

Mr. Boyden—Mr. France came to my office on Wednesday or Thursday and asked us what we wanted to do. I said, "What would you like us to do?" The next day Mr. France and Mr. Hutchinson came and asked about honey for the exhibit. I said I would furnish whatever they suggested. It was with the understanding that our name was not to be used in that exhibit. I did it simply to help out Mr. France and Mr. Hutchinson in the exhibit. I did my best to furnish good goods, so that there would be no discredit on pure honey. Sweet clover honey in a large jar will always look attractive.

Mr. Kimmey—The exhibit of 14 x 14 feet was too small. If you expect to have any sort of notice taken of such exhibit, you are sure to be disappointed. You have to do something to attract the people. Get it in the papers.

Mr. Wheeler—The liquor exhibit took all the attention because they gave out samples. We should have demonstrated honey. The bees that were to be shown died on the way.

Mr. Kannenberg—Once there was a little boy who had a bantam hen. He was quite worried over the fact that she laid such small eggs. Finally he thought of a plan whereby he felt he could induce her to increase their size. So he procured a large ostrich egg and put it up in front of the little bantam hen's nest, and above it put these words: "Look at this, and do your best." So we must keep on trying to improve our honey exhibits.

Pres. York—That was a very good illustration. It was a mistake not to have given out samples of honey at the Food Show.

Mr. Wheeler—Mr. France and Mr. Hutchinson did a great deal of work for that exhibition. I think the bee-keepers ought to remember that.

Mr. Moore—I considered that a creditable exhibit. A live bee exhibit would be the most attractive and draw the crowd. But I go on record as against these exhibits. It is almost impossible to make them pay. The sentiment of this whole matter is to get 2 pounds of honey into the mouth of every man, woman and child. Don't send all the honey to the cities.

Publishers and Supply-Dealers vs. Honey-Producers.

"Are the interests of publishers and supply-dealers antagonistic to the interests of the producers?"

Dr. Bohrer—I can not see why they are. I think they go hand in hand. A man may manufacture and put on the market something that is a decided fraud. If publishers advertise a thing that is a fraud and push it, of course it is not right. I think, however, there is very little of it done.

Mr. Wilcox—Since this convention first opened I have several times heard remarks reflecting on the supply-dealers, and have read a great deal regarding the antagonistic position toward the supply-dealers and editors. Where did it originate, and how? I have never seen any cause for it. When I commenced bee-keeping, I could have done nothing but for the information received from the catalogs of bee-supply dealers and bee-papers, particularly the American Bee Journal and Gleanings. I don't see what the producer would do without the supply-dealers and publishers. I can not see how you can separate their interests. Their conduct might be wrong; they might adopt fraudulent means; but I don't know when they *have*. I believe that it is for our interest to preserve a better state of feeling between the producers and supply-dealers.

Mr. Moore—I move that it is the sense of this convention that the publishers, bee-supply dealers, and producers are essential to each other.

Mr. Taylor—It is necessary to make some distinctions here to understand the question. Mr. Wilcox discussed the question as to whether the supply-dealers and producers could get along without each other. The question is whether their interests are antagonistic. They can not get along without each other. The bee-supply dealers must have the bee-keepers, and the bee-keepers must have the supply-dealers, etc. That doesn't touch the question as to whether their interests are antagonistic. It is one plain question of bee-keeping that the ranks should not be very greatly extended. The interests of supply-dealers and the interests of the publishers of bee-papers are very antagonistic to that. Their interests are in increasing the number of bee-keepers to as great an extent as possible. That is no reason why we should not pull together. And we may sometimes want to curb supply-dealers in some directions, and may criticize editors in regard to their attitude on the honey market. But we should pull together. Criticism should be taken in good part. Publishers and bee-supply dealers ought to be able to stand criticism.

Mr. Moore's motion was carried unanimously.

On motion the convention adjourned to meet in 1908 at the call of the Executive Committee.

Conducted by LOUIS H. SCHOLL, New Braunfels, Tex.

A Texas Greeting.

"Merry Christmas and Happy New Year!" May the old year have been a happy and profitable one, and the new one still more so.

Good Honey Year in Texas.

All in all, Texas has had a good year. There are a few localities which were not so good this year. However, the great majority of bee-keepers have done well enough, hence there were more bright faces among them this season than usual when "crops are not so fair." Most of the bees are going into winter with abundant stores, so that they should be in fine condition for 1909. But who can say what the next year is going to have in store for us. It is to be hoped that it will be a good year, with lots of honey, and—money.

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Bees and Poultry.

So Miss Wilson is going to mix poultry with bee-keeping in her department, page 333. Or anything else for that matter, that the sisters are willing to tell her about will mix well with bee-keeping.

According to Editor Hutchinson, of the Review, and my own experience, it seems that nothing would mix better with bee-keeping than "more bees." However, several, and those who ought to know, have told me that, with "my knack of doing great things" (?) I ought to go into the poultry business—bees in summer and chickens in winter. I have been told that in this way the two could be successfully combined, and that there was lots of money in it. But whether it is to be chosen instead of "more bees" I'll leave for the sisters to settle.

Dark Brood-Combs and Honey.

We are fortunate that the buying public here is not so particular about the color of the honey as the flavor. It enables us to use our combs for extracted honey longer, and wherever we please. If we need them for brood we use them only to put them into the extracting supers again afterward. With the shallow-hive system my combs travel continuously from brood-chamber to super, and *vice versa*. But the honey from them is not the lightest. It does not make so much difference when the honey is extracted from unsealed brood-combs, but as soon as the combs are mutilated in uncapping, the honey not only gets darker, but the flavor is impaired. This is very decidedly so with very old combs.

State Fair Apiarian Exhibits.

It is with great pleasure that I noticed the item on page 327, regarding the apiarian exhibits at the Illinois State Fair. I had just returned from our fair exhibit work and with everything fresh in memory, it was of great interest to know what was being done along the same line in other States.

This shows again the value of bee-papers in presenting to others who are not in a position to see for themselves such things that are of interest to them. I have been studying exhibits at fairs, etc., for years, but, unfortunately, it has been impossible to visit many fairs where good bee-keepers' exhibits were made. Consequently such articles on the subject as have appeared in the bee-papers from time to time, together with the photographs of the exhibits themselves, have been eagerly looked for, and have been of much help.

From my own experience it seems to me that this is a subject of enough importance to warrant the publishing of more pictures of bee-keepers' exhibits than have been shown. It helps the exhibitor who contemplates making a nice exhibit. Seeing others' exhibits not only furnishes another person an idea after which to arrange his exhibit, but to improve upon it.

Seeing many exhibits, each arranged differently, enables one to select the best features of several and then combine them all in his own. Thus an exhibit can be made to surpass all previous shows; yet that is not the end. A number of such exhibits will again have certain good features, each along a different line, so that these can again be combined in still a better exhibit. There's no end to it, and so there is no reason why we should not have better exhibits from year to year.

Many bee-keepers do not consider this subject of much importance, but those with experience well know that they are the biggest advertisers of the entire industry known. "Seeing is believing," and if those in charge know their duty the people can be shown that there is pure honey in this world, and lots of it.

A North Carolina Apiary.

As it has been almost a year since you heard from me, I will speak a few kind words to you and my brother bee-keepers, and let them know that I am still on the war-path with my bee-business. I will call it my "bee-business," because this has been one of the finest honey-flows that has been here for many years. But we had only one flow, and that was from sourwood, and as I made about $40 a day with my bees for about 15 days, I call it a "business."

I am enclosing a picture of one of my yards. This is my home-yard, and one which I take a great delight in keeping nice, although my old, dilapidated yards out in the country produced just as pretty honey. You ought to have seen that pretty, white sourwood honey in those old saggy, worm-eaten hives. It would make any bee-keeper's mouth water, knowing it is going to sell at 18 cents per pound.

This picture had 13 colonies in the spring, and I received 1000 pounds of sourwood honey, and increased to 25 colonies, which was 70 pounds to the colony, and made a colony out of each increase. My bees are hybrids and know how to sting and how to gather honey. My out-yards averaged about the same to the colony. I failed to have all of my queen's wings clipped, consequently I lost several fine queens and swarms. Bees swarmed the most this season that has ever been known in this State. They swarmed without any queen-cell, therefore I knew not when a swarm was going to issue. Next season all of my queens will be clipped.

This picture was taken one day after I had taken off the honey. You will notice my young helper sitting on a hive. That is where he wanted to sit and I think he is enjoying it. He got stung 7 times on his face one time, and both of his eyes swelled shut, but he is not afraid of the honey-bees.

Bees are going into winter quarters in a very poor condition. They worked very hard on frost-weed but did not gather much honey. I will have to feed in early spring.

Elkin, N. C. G. F. Jones.

Apiary of G. F. Jones, Elkin, N. C.

Off-Grade Broom-Weed Honey, Etc.

At this date (Oct. 18) we are having an extra-good honey-flow from broom-weed. The whole face of the earth is covered with this weed, and it is a sight to see as far as your eyes will let you, a perfect sea of yellow bloom. And the question with some of us is, "What are we going to do with so much of this off-grade honey?"

Hot or Cold Honey-Knives.

I see there is some discussion now in the bee-papers as to the use of hot or cold honey-knives in uncapping honey. That a cold uncapping-knife can be used there is not the slightest doubt. I have uncapped many thousand pounds with a cold knife, and so have I produced nice section honey without separators, and have also had nice brood-combs drawn from full sheets of comb foundation without wires, but that by no means proves that there is not a better way to have such things done. How any one could think of using a cold knife after having used the hot one is another of the many things I don't know. Why, I would not think of using a cold knife for uncapping, and will say to those that have not tried the hot knife, try it. Have 2 knives, keeping constantly in hot water, and change often. You will

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be surprised how much faster and easier the work is done.

Bees Shaking or "Waltzing"—Why.

I have seen the question asked more than once as to why bees shake their abdomens, or "waltz" when they enter the hive with new stores. After having observed bees at these peculiar antics for years, I am fully convinced that this is done to attract the attention of the other bees, or in other words, to communicate to the other bees that new stores are to be found. When feeding bees I have watched them go through with these "waltzing" maneuvers, and the other bees would gather around the bee going through these peculiar motions in an inquisitive way, as much as to say, "What have you found now, sister, for us to help you gather?" And the bee going through with the shaking motions would offer this one and that one a sip of the food, whereupon they would start at once for the entrance to go in search of the food or new stores to be found.

Robber-Flies—Destructive to Honey-Bees.

I notice in Gleanings that Prof. A. J. Cook, in speaking of robber-flies, says: "We have both kinds here, the yellow ones that very much resemble the bumble-bee, and the large gray ones," etc.

We can "go you one better," Professor. We have the ones mentioned by you, and still another pale, red kind that somewhat resembles the common red wasp in color. This latter kind is more numerous in the fall of the year, and I have reason to believe that they have lessened my honey crop considerably by catching so many of the field-bees. My colonies are not so strong in working force as they should be, and I can account for it in no other way except the unusual number of these flies. L. B. Smith.

Rescue, Tex.

Conducted by J. L. BYER, Mount Joy, Ont.

Report of the Ontario Convention.

The annual convention of the Ontario Bee-Keepers' Association was held in Toronto, Nov. 11, 12 and 13, 1908. Single fare on all railways in connection with the Ontario Horticultural Show, combined with good weather and other favorable features, brought out a good attendance of representative bee-keepers from Ontario, as well as A. C. Miller, of Rhode Island, and Messrs. Clark, House and Hershiser of New York.

Pres. F. J. Miller, of London, Ont., occupied the chair, and in his address laid special emphasis on the good work being done by the apiary inspectors and the crop report committee.

Vice-Pres. Wm. Couse spoke along the same lines, and referred to the fact that the Ontario Bee-Keepers' Association had done much for the bee-keepers, and without its help the industry in the Province would not be on nearly so good a footing.

We were under great obligations to the Department of Agriculture for their generous assistance in so many ways, and anything in the lines of reason, really necessary, would be done for us if we simply ask for it.

"Sidelights on Marketing."

Mr. A. C. Miller addressed the Convention on "Sidelights on Marketing Honey." He recognized the fact that conditions were different in Ontario from Rhode Island, and was glad to note that prices on honey were better on this side of the line. For his own trade he found that it paid to "blend" the honey for the retail trade. His market called for a golden honey and consumers were suspicious of a "water white" article. He noticed here in Toronto that the honey in the stores was all white, that possibly blending would not do here where people were used to the white article all the time. In Rhode Island no great lot of any one kind of honey is produced, hence it pays to give the consumer the same kind of honey as nearly as possible all the time.

In the discussion that followed, Jacob Alpaugh said he often practised blending, and he thought 100 pounds of dandelion added to 2000 of clover, decidedly improved the honey. Messrs. McEvoy, Timbers, Chrysler, and others, strongly advised against the practice, and thought it best to sell each kind of honey on its own merits.

Wild Mustard Honey.

"What is the quality of wild mustard (charlock) honey?"

Various answers given to this question, some said it was "bitter," others "sharp," and still others thought it a good honey. The writer suggested that probably different tastes explained the differences in opinion.

Pickled Brood.

"What causes pickled brood?"

Mr. McEvoy—Poor feeders. Requeen is the remedy for this disease.

Some members thought that black bees were more subject to this complaint than are Italians.

Engine for Extracting.

"Does it pay to use a gasoline engine for extracting honey?"

Mr. Nolan had found the gasoline engine a great acquisition; his weighed only 200 pounds, and had cost but $80. He used it for many other purposes besides extracting; being so light it was easy to move from one place to another.

Mr. Sibbald stated that he had visited Mr. Nolan and was surprised and delighted with the work of the engine. Pres. Miller had also used one for 3 years, and would not think of doing without it.

Foul Brood Inspectors' Reports.

The 8 foul brood inspectors all gave their reports. It was generally conceded that the work was progressing nicely, and many suggestions—some original—were made by way of keeping along in the eradication of foul brood. Among the latter was a suggestion by Messrs. Chalmers and Chrysler, that an experimental apiary be established, and all diseased colonies be sent there for treatment. The idea, however, met with little support from the members. The question was raised as to whether it would be wise to compensate for foul-broody colonies destroyed; but the opinion of the convention was against this, and it was pointed out that this would open up a convenient way of *selling out.*

Again, it was mentioned foul brood colonies have no value aside from the bees and wax in the combs, so why compensate?

Black brood was reported only from one section in Ontario, but here the disease was particularly virulent. Mr. House, of New York, said that this disease was far more to be dreaded than ordinary foul brood, and the writer's experience in combatting the disease in the infected district would lead him to believe that Mr. House was putting it mild.

Government Work for Bee-Keepers.

"What has the Department of Agriculture done in the way of apicultural experiments at Guelph?"

Sec. Hodgetts admitted that practically nothing had been done as yet, but at the present time the Government was considering the establishment of an experimental apiary, and was looking for a suitable man to be put in charge of the work.

A paper by Mr. Dickson, on the production of extracted honey, was read by Mr. Nolan. Preparations for a crop should begin the previous year. Requeen all colonies having old queens, and see that all colonies go into winter quarters strong in *young* bees. Aim for quality as well as quantity. Tier up supers until well sealed, and remove the honey with bee-escapes. He would store honey in tanks to give time for all bits of comb, etc., to rise to the top. The running of honey into permanent containers direct from the extractor was characterized as "nonsense," and he would strongly advise against the custom. There are no cast-iron rules in the production of extracted honey; every one must be guided by the requirements of his own locality and individual ideas.

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Increasing Use of Honey.

"To what extent can the use of honey be increased, and by what means?"

Abundant openings for increase in use—produce a good article—develop home trade—exhibit honey at fairs more freely, and see that more liberal prizes are given at exhibitions.

Buckwheat Honey.

"Can the people in the Western Provinces be educated to eat buckwheat honey?"

Various opinions expressed, and the need of developing, if possible, that taste, was agreed to by all, as more buckwheat honey is being produced each year.

Mr. Holmes—Thousands of men get used to tobacco, yet none liked it at first.

Mr. Hershiser—Compare it with something *good* to eat, such as celery, tomatoes, etc.

Honey Adulteration.

Prof. McGill, Chief Analyst for the Dominion gave a lengthy and instructive address on the adulteration of honey. He conducted several chemical experiments, showing how to detect the various adulterants in use, and lamented the fact that at present we had no definite understanding as to what constituted a legal honey. Now it is quite possible to make an artificial honey that would pass the chemists' tests, and this should not be possible. At the conclusion of a very able address Prof. McGill asked that the Association put itself on record as desiring a legal definition of honey, and present resolution to the proper authorities. At a later stage of the convention the following resolution was unanimously carried:

"Recognizing the importance of a legal definition of honey, this Association respectfully recommends the adoption of the following description as embodying the present state of our knowledge regarding Canadian honey: 'Honey is entirely the product of the work of bees (Apis mellifica), operating on the nectar of flowers and other saccharine exudations of plants, and contains not more than 30 percent of water, or more than 8 percent of sucrose (cane-sugar), and no less than 60 percent of invert sugar. It does not give a blue color with iodine (absence of starch-sugar), nor a red color with aniline acetate (absence of artificial invert sugar), nor a dark color with Ley's reagent, ammonical silver, nor a marked precipitate of dextrine on adding large excess of alcohol (absence of glucose syrup).'"

Queens to Prevent Swarming.

O. L. Hershiser read one of the best papers of the Convention, entitled, "Requeening of All Strong Colonies with Queens of the Current Year's Rearing as a Measure to Prevent Swarming."

Every year there are a number of strong colonies during fruit-bloom; these can be profitably used to rear the queens desired. Use all the old, vigorous queens in nuclei, and take brood from them to strengthen the full colonies with young queens. No special hives are required for this system, and every move was along Nature's ways.

Mr. Pettit objected to breaking up these very strong colonies into nuclei, and would prefer to buy the queens.

Messrs. McEvoy, House, Anguish and others pointed out that it paid to breed from these extra-strong colonies, the improvement in bees more than counterbalancing any direct loss in honey-production.

Several members doubted if young queens would *always* prevent swarming, and A. C. Miller thought queens could be given much cheaper in the fall than in the spring.

Mr. House said that a queen introduced the previous fall would swarm just as soon as a 3-year-old, so nothing would be gained by way of preventing swarming.

Imported Honey.

Mr. Holtermann read a paper on the "Importation of Foreign Honey into Canada." It was shown that these importations are increasing very rapidly, and as much of this honey came from Great Britain at a price so low as to excite suspicion, it was recommended that investigations be made. It is thought that much of this honey is shipped to England first, and then to Canada, so as to come under the Preferential Tariff.

Short Cuts in Apiary.

A. C. Miller addressed the convention on "Short Cuts in the Apiary"—short cuts necessary to produce honey as cheaply as possible.

He found it paid him to use a special suit while at work among the bees, made of cotton and bright in color. Remove all annoying features, as bees sting because they cannot help it—are reflex machines. Use the best smokers, knives, hive-tools, etc. Uncapping-knives are made of cheap steel; get your blacksmith to make one out of an old file. Steam-heated knives were tried 10 years ago, and they were proven to be no good.

When uncapping thick honey, dip the knife in a bath of hot wax. Water is an absolute necessity in an apiary—have it handy to your work.

Learn to diagnose the condition of the hive by outside appearance. Use the ear and learn the meaning of different bee-sounds. Avoid shaking combs much—many eggs are destroyed by shaking.

Honey Uncapping Machine.

Mr. Bayless, of Brantford, gave a practical demonstration of his uncapping machine, and Mr. James Armstrong, who had used it in his apiary, reported the machine an entire success. The knives worked freely, and the combs were left as smooth and even as a planed board. The members of the association expressed themselves as satisfied that an uncapping machine was a necessity, and it would soon be a common implement in the apiary.

A resolution of condolence was presented in connection with the death of Samuel Wood, who had been a Director of the Association for a number of years.

Reports of the Secretary, Treasurer, Honey Exchange, and Transportation and other Committees were received. The usual votes of thanks were given, and the Convention adjourned to meet in Toronto again at the call of the Executive committee. Officers for next year are as follows:

President, W. Crouse, of Streetsville, Ont.; 1st Vice-Pres., W. J. Craig, of Brantford, Ont.; 2nd Vice-Pres., Dennis Nolan, of Newton Robinson; Secretary, P. W. Hodgetts, Parliament Buildings, Toronto, Ont. Directors: District No. 1, A. Dickson; No. 2, Alex. McLaughlin; No. 3, J. C. Eyre; No. 4, R. Lowey; No. 5, J. L. Storer; No. 6, W. Couse; No. 7, J. M. Curtzer; No. 8, W. H. Bowen; No. 9, W. J. Craig; No. 10, D. Chalmers; and No. 11, W. A. Chrysler.

Bee-Keeping in Colorado

BY R. C. AIKIN.

The past few years "locality" has been a word much used by apicultural writers and speakers. Indeed it has become common to account for differences by saying it was "because of locality." One says his bees do so and so, another takes issue and says they do not do that way in his locality. In fact, we as writers have been making a rather too free use of that word to cover or excuse our ignorance of bee-nature—to ease down from an argument when we have reached the limit of our knowledge and do not know what to say next.

To master the science of bee-culture is a big job, so big that when this generation shall have passed the coming one will still be wrestling with the problem after having absorbed all our knowledge handled down, plus their own findings. I am not making fun; "locality" does play an important part both in what bees will do and what they will accomplish. And while I am discussing "bee-keeping in Colorado" it is to throw light on the subject and show wherein and how locality does affect.

Fields in a like climate differ greatly because of difference in flora, such as blooming in one season at one place and elsewhere in another, though but short distances apart. It makes quite a difference whether your house being on

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fire you receive the alarm when in the full use of your mind in open day, or whether you are suddenly roused from sleep in midnight. There are multitudes of influences that have their effect on us "human animals," and so in like manner the bee is affected by conditions, a slight turn of the kaleidoscope will show a very different picture. Heat, cold, sunshine, cloud, dry, damp, pollen, nectar, dearth, old queen, young one, ventilation, stores and their quality, quantity, and position, etc.; the size and shape of the hive, and a multitude of other things all have their influence. Not only do they have their influence as mere factors in the problem, but as in a mathematical problem it makes a vast difference whether the 8 is in the first or last column in its combination with the ciphers or other numerals making up the whole number. Just as when we know the characters used in the problem in arithmetic and their relation to each other, we quickly decide results and give the answer, so with the problem of the bee. Could we master their nature and know the value of each and every factor, and what it loses or gains by a change of position, relation, or intensity, we could decide results accurately.

I have not mastered these things, nor has any one. I come before the reader with a humiliating sense of my littleness before this great problem among the multitude of problems before the human race in their effort to subdue and overcome the earth. Our time is short, and we but make a beginning and think we soon will walk upright when we receive the full penalty imposed on man—death—and our work must cease. Did I say cease? Not so, for another takes it up and it goes on, and may I not hope that when I again return from the grave I may find that I have laid a foundation, and others have built thereon until I behold a perfect structure. Brethren, let us try to fit a few stones for this great apicultural structure that is to bless future generations. Let us build with both hope and assurance that we too will in the future enjoy the fruits of our labor.

Now Colorado differs from other communities in many things, and when you leave your Eastern homes and enter this you find the factors very materially changed, but the *nature of the bee* remains *unchanged*. I shall therefore dwell much on the question of climatic and other factors, and their influence on management and results.

First, let us consider climate. To one who has always lived in the Missouri, Mississippi or Ohio valleys, and similar climate, it gives no adequate conception to say that Colorado climate is dry; you know, it is almost impossible to convey anywhere near a true conception without something to compare with, and if your climate is a wet one, and you have never known a dry one, you are without comparison.

We do not have 365 sunshiny days in a year, but we come so close to it that the days in a year that the sun does not shine for at least a few minutes are rare, perhaps not over a dozen. Three days without seeing the sun would be a matter of remark, and considered a gloomy spell of weather. Ten 3-day storm and cloudy spells in a year would make but one month, and we think we do well to have half that many, with enough rain from each to wet the ground to a depth of 6 to 10 inches. In May, June and July we have some thunder showers, and sometimes quite heavy ones, but these are very limited in area, usually, in most cases from one to 4 or 5 miles wide, and if there were 2 or 3 such showers a day, and continued over a period of 2 or 3 weeks, would not in that time precipitate as much water as often falls in one night over vast areas in an Eastern thunder-storm.

Furniture made in the East will shrink and open cracks when brought out here. Farm implements must be well-painted on well-seasoned material or they will soon be loose and rickety when sent here. Bee-hives made as for Eastern trade when shipped to Colorado soon get so very shallow that the frames stand on the bottom-boards. Our climate is so dry that white and red clovers, blue-grass, timothy, and all similar shallow-rooting plants cannot survive. Buffalo grass lives all right, and is a shallow grower, but it has the peculiarity that it will become thoroughly dry, root and branch, and yet grow again when moisture comes again. This grass is usually dry, root and top, all winter, but comes on again with spring rains or moisture from winter snows. Should there be rains on the buffalo grass range in late summer and fall, so as to keep the grass growing and still be green when frost comes, it is spoiled for winter pasture; it is then but frosted grass, and stock do not thrive on it at all; but it is generally expected (and usually is so) that by August and September, the ground becomes so dry that this grass just dries up right where it grew attached to the root, and when so it is *hay* right out on the prairie; since there is seldom much snow in winter cattle browse this hay right from the stump and thrive well. Do you ask why not mow it? Well it is so short and kinky—just as well expect to cut a crop of hair from a darkey's head. We have our peculiar plant life that belongs to dry climates.

We have dust, too; these dry climates are dusty ones, sure; you could scarcely touch anything with a black suit without leaving dust marks on it. Where water can be had, of course we grow things similar to those grown in the East; but even then the watered tracts are by all odds the lesser part of the ground, and the snows on the mountains usually are about all gone by August, and plant life requiring moisture throughout the year dies in winter from simple drouth. Alfalfa and sweet clover are drouth-resisting simply because they root so very deeply that they find enough moisture to keep them alive till rain comes in the spring. We usually have *some* spring rains. The past year we had very little rain from July to the next July, and the result was that some alfalfa died, and about half of the sweet clover.

Now all this has to do with our flora, and in other ways influences our honey crops. Our State, as a rule, and the same may be said, I think, of all this Western arid and semi-arid country between the Missouri River and the Pacific Ocean, depends almost exclusively upon the two plants for honey, that is, alfalfa and sweet clover. California has its sage, and in the fruit districts orange and other fruits; but while I can not speak authoritatively, my understanding is that as a whole, the whole arid West with very few exceptions depends upon these two main sources for the surplus crop.

When it comes to building bees up in the spring, there are a variety of conditions, and I must confine myself to a comparatively limited area when I describe spring-blooming plants, but I feel confident that while there is a great variety of minor blooms, as one goes into these Western States, and to different places in the same State, when I have described the "Eastern Slope"—that is, the country east of the range or main line of the mountains—I have given a very good index of general Western conditions.

Loveland, Denver, and similar districts along near the mountains, are in round numbers 5000 feet altitude. Altitude makes a very considerable difference in temperature, and in time of blooming of the early flora. Close up to the mountains and in the foothills there are several kinds of bloom in April; but the main dependence for early bloom to start breeding and put the colonies in good trim is the cottonwood trees, which at this altitude open from April 10 to 20, and last about 10 days to 2 weeks. Where fruit is grown, that comes a few days later, but many localities have very little of this.

Loveland, Colo.

(*Continued next month.*)

The Best Sweet for Children

BY REV. R. B. MCCAIN.

Many parents find the candy problem a very real and difficult one when their children come to the age when they know how to spend their pennies. Some try to solve the problems by denying the child indulgence in sweets; others, and perhaps the majority, make the fatal mistake of allowing the child to choose for himself the kind and the amount of candy that he will take.

It should be remembered that the craving for something sweet is a natural one. It is the natural and legitimate demand of the system of the growing child for sugar. No greater wrong could be done than to deprive the child of wholesome sweets. The wrong closest akin to this is to give him money and allow him to choose the gaudy, adulterated stuff whose color and shape happens to tickle his fancy.

The candy problem has been easily and successfully solved by those who have rediscovered nature's own provision for this demand of the human system for something sweet. Honey,

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as it comes from the combs in which it has been stored by the bees, has been found, not only to be harmless, but wholesome for children to eat. They may eat it day after day and year after year, provided, of course, it is taken in reasonable quantities, and at proper times, without the slightest injurious effects.

It is a well known fact that candies and other sweets which are made of ordinary sugar of commerce, if taken habitually will in time prove very injurious to digestion. This is due to the fact that ordinary sugar must be converted in the digestive tract to "grape sugar" before it can be assimilated. It has been stated by some excellent authorities that the continued draught on the secretive forces of the system in converting large quantities of sugar is a fruitful cause of Bright's disease and other kidney trouble.

No such danger is attendant upon the eating of honey, as it is partially digested in the honey-sac of the bee, and enters the digestive system of the human body in proper form for immediate assimilation. A more general acquaintance with this simple truth would prove a boon to many parents who are troubled with the candy problem. And what is very much to the point in this connection is the fact that the price of honey is not more, and in some cases not as much, as that of the cheapest pure candy.—National Bee-Keepers' Association.

The Business Man's Bee-Hive —Milkweed

BY E. S. MILES.

There are two articles in the September issue of the American Bee Journal that I would like to comment upon. First, the article on page 268, entitled, "Bee-Hives for the Business-Man." I do not doubt that there are many cases similar to the one cited, but there are many cases where a little different management would make a great deal of difference in the results. The season, too, must have been very peculiar to have given so much swarming from the 8-frame hives, and only 19 sections per colony, spring count. It is evident that the 8-frame-hive man was not so well informed on management as the large-hive man. It is just as easy to control swarming as to put on extracting combs, know when and how to market it, yet a great many never learn it, and I suppose never will until an Alexander arises who can knock out a few more of the preconceived notions of our "orthodox" teachers.

Now, my object in writing this is not to tell Mr. Dadant anything, but to tell what can be done with an 8-frame hive for extracting, and for the benefit of the hundreds who already have the 8-frame and can not change.

With us here in Western Iowa, the 8-frame hive is as large as the average queen will use, up to the flow from clover, and as we are fixed for cellar-wintering, we prefer that size, and as an occasional queen needs more room in spring, it is an easy matter to equalize, as we think there are few yards where some colonies will not need a little help. Then we breed our queens from those not inclined to swarm, as Mr. Dadant advises, and by tiering up plenty of ready-built combs, with proper shade and ventilation, we do not have 3 percent of swarms.

Neither do our colonies swarm at superseding, except very rarely. During the past season we had about 190 colonies, and perhaps 160 (we keep an accurate record, but do not take time to go over it just now) were queens reared from one certain colony or were natural, superseding queens from the mother of this colony, and we had but 6 swarms from the whole number. We had 29 colonies in an out-yard run entirely for extracted, with shallow supers, and no swarms. The season here was poor, but had a long-continued light flow, so that it was not practicable to give a colony room in proportion to their strength, especially in sections, and always considered favorable for swarming. Our swarming has not been heavier from this strain since we began breeding it about 10 years ago.

There is more in the management and the kind of bees than there is in the size of the brood-chamber.

We wish to say that we have no bees or queens for sale.

"MILKWEED AND HONEY-PLANT."

Under this title, on page 278, Dr. Miller says, "Nothing very definite is known on this point, and it is doubtful if any milkweed honey has ever been reported." I do not question this statement, but wish to say that 4 years ago, milkweed was very abundant where I was then located, and some colonies worked almost exclusively on it. The honey was very nearly water-white, with a very pronounced flavor similar to the smell of the blossoms, but on standing a few weeks seemed to lose part of the flavor and became very fine honey.

The pollen sticks to the bees' feet so that I do not think any but very vigorous bees do much good at working it. An occasional old bee will be seen stuck fast to the bloom, but we have never noticed that the colonies that worked it would be weakened any thereby. Many a time has the writer lain beside the hive and watched the bees while working on this milkweed, and I have thought sometimes that beenature, after all, is somewhat like human nature. When a field-bee comes in all podded out with "the swag," she is given the "glad hand," no matter how much pollen is sticking to her feet; but no sooner is she parted from "the goods" than "her room becomes more valuable than her company," and she is unceremoniously hustled out; dragged out, if she doesn't go quickly enough. But here she can teach the humans a lesson. Instead of becoming discouraged by such inhuman (or human) treatment, she immediately hies away to the field for more of "the stuff," and thus they continually keep it up all the hot, livelong day. How they compromise the matter at night "this deponent sayeth not," but I have never noticed any frazzled out, pollen-bedraggled workers roosting over night "on the porch."

I regard the milkweed as a valuable honey-plant where it is plentiful, and a very reliable yielder, and think Italians a little better on it as they are more persistent than blacks.

Dunlap, Iowa.

Bee-Diarrhea in Cellar-Wintering

BY C. P. DADANT.

I recently had occasion to make a short trip into central Iowa, and visited some successful apiarists. One of them told me that he had difficulty with cellar-wintering, owing to diarrhea among his bees during the latter part of the winter. He had tried delaying the putting of bees into the cellar until late in December and found that this aggravated the trouble. This delay was a mistake, and I soon convinced him of it.

There are two or three principal causes of bee-diarrhea. Of course, long and continuous confinement is the main one. But in our temperate regions where the bees need not be confined over 4 months, there is not the danger which exists in colder countries where the cellar-wintering of bees lasts from the early days of November until April, and sometimes till May 1st. Yet we hear more about diseased bees in the cellar here than there.

The reason why bees that are brought late into the cellar suffer more than those that are brought in early is, that the former have often been confined to their hives for several weeks before they are brought in. When the weather turns cold, the bees cluster together in more compact mass and eat more honey than in mild weather, for it is by the consumption of honey that they maintain the warmth of the cluster. The colder the weather, the greater the consumption of rich food. That is true of bees and beasts as well as of human beings. That is why the strong meats, like pork, suit us better in cold weather. That is why the Greenlanders consume fish-oil with relish. Since our bees eat more, their intestines become more readily loaded with excrements that must be discharged under penalty of suffering. If we take the bees into the cellar shortly after a flight, their bowels are entirely free, and they go into the cellar in the best possible condition. If we delay, for the purpose of making their confinement shorter, they begin consuming honey more liberally at the first cold, so that after 2 or 3 weeks or more of delay, we put them into winter quarters with less chance of success, because of the excrements already accumulated in their bowels. That is why all authorities agree in advising the housing of bees promptly after a good flight, even if it is a little early, rather than wait and be compelled to take them in after they have been exposed to cold. Of course, if they remain outside, they will again take advantage of a warm day to relieve themselves of their excrements, but this may come too late in the season to make cellar-wintering advisable.

The sickness caused by an overload of excrements may not be properly termed diarrhea, for the excrements

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may be normal, but if the bee is compelled to discharge them in the hive, the result is disastrous, as in real diarrhea, and the conditions become the same.

Unripe honey, harvested late and remaining unsealed when the bees are put into the cellar is one of the principal causes of positive diarrhea, other conditions being satisfactory. Honey containing many floating grains of pollen is also a predisposing cause. That is why so many bee-keepers whose bees have suffered from either or both of these causes find it advisable to remove the honey of the late harvest and replace it with sugar syrup. But this task requires so many manipulations that I hesitate to recommend it, unless the honey is known to be entirely unfit for wintering, as in the case of fruit-juices, or when a great proportion of the honey has remained unsealed. This is a very exceptional occurrence. I have seen it only two or three times in my experience. At one time, during a damp winter, the unsealed honey gathered so much moisture, even out of the cellar, in colonies wintered on the summer stands, that the cells overflowed, and the honey ran out on the alighting-board. The loss of bees was tremendous, both out-of-doors and in the cellar. When the bees are confined to a dry cellar the danger from this source is much lessened. That is why a cellar which has been partitioned off and in which a hot air or steam furnace is used to heat the house proves safe, provided the room in which the bees are kept is ventilated sufficiently to keep it cool. The draft which passes through to nourish the fire is a moisture drain.

A damp cellar, from which the moisture cannot be expelled is dangerous to the bees, if their honey is not of the best. Basswood honey, which so often is unripe when sealed, becomes a danger, as is the late fall honey, while good white clover honey seems to be as good winter food as the best of syrup. Of course the cheap syrups are out of the question.

When the cellar is damp, the bee-keeper often finds that the hives which are at the bottom of the pile are the worst off. We have often practised placing them on trestles, 2 or 3 feet from the ground. The temperature is also lower near the floor than above, and moisture and cold make an unfortunate combination.

Ventilation is a matter of importance. The lack of it helps the retaining of moisture and increases the possibility of diarrhea. Dr. Miller knows this and urges abundant ventilation. His hives are raised from the alighting-board some two inches, and in addition he does not hesitate to open the door of his bee-cellar wide for increased ventilation whenever the weather permits it.

We have not practiced cellar-wintering for some years, except in cases of short crops or very weak colonies, but whenever we do, we leave off the alighting-board entirely and pile the hives on top of each other without cap or bottom, and with only a straw mat between the different colonies. A couple of cleats set crosswise are used to keep the hives raised sufficiently. We would not insist on others following this method, but I believe it is advisable to give more air than in outdoor wintering.

If the bees are taken in as soon as the weather turns decidedly cold, shortly after a flight; if their honey is sound and ripe, not much of it being unsealed; if the cellar is well ventilated and may be easily kept at 40 to 45 degrees, rarely exceeding 50; if the hives are given plenty of ventilation while kept as much as possible in darkness, there will be very little danger of diarrhea or overloading of excrements and a confinement of 4 or 5 months is not to be feared. That is my experience, which I think will be backed by that of most of those who make cellar-wintering a practice.

Hamilton, Ill.

Preparing Bees for Moving

BY CHAS. TROUT.

In Northern California, Nevada, and a few other Western States, are many bee-keepers who move their apiaries from one honey-flow to another. Thus they extract several tons more than the regular apiarists.

A few summers ago I took charge of 6 apiaries of about 200 colonies each,

HIVE READY FOR MOVING.

owned by C. I. Graham, and ran them for extracted honey, in the northern part of the State. Mr. Graham owns about 3000 colonies located in California, Nevada, and Utah. He practises moving. Often have I driven 20 to 30 miles a night with a load of bees. Sometimes it would take all night and we arrived at our destination half-frozen, tired, sleepy, and then have to unload. You say there is no need of this, take more time; but the large specialist is usually in a sweat to get them moved.

We moved our bees with 6 mules, 2 wagons, and 3 men. We handled about 70 colonies at a time. The hives were prepared with a crate beneath the brood-chamber and a screen on top. Then the hive was made secure by 4 slats, 2 on each side of the hive. This was Mr. Graham's method. In the accompanying photo you can easily see the method of crating each hive. Thus the entire apiary is prepared. At sunset when the bees have stopped flying, the entrances are closed and the wagons loaded. During the night the bees are moved from where they might have starved to where they can then make several extractings.

H. T. Chrisman, of Fresno Co., Cal., practises moving a little differently. He uses a screen on top and wire netting over the entrance. One super is used on the hive at all times. These are fastened in the moving season to the brood-chamber by a slat on the front and back of the hive. The bottom-boards are fastened by a staple. This is a good method for general purposes. For distances less than 50 miles it surpasses Mr. Graham's method, which is more desirable for long distances, such as moving from one State to another.

Redlands, Calif.

Preparing for Next Season

BY G. M. DOOLITTLE.

The successful apiarist, the one who loves his bees and all that pertains to them, so that he or she sees only "fun" in an apicultural calling, has little time to waste, and if any have started into the business on the supposition that "bees work for nothing and board themselves," it will be just as well for them to get out of it, for very little success can be attained along that line.

As soon as the bees are properly prepared for winter, which should be accomplished as early as October 31st, we are ready to commence our plans and work for next season, and so we commence operations at once, remembering the proverb of the ancient wise man who says in the good book, "Seest thou a man diligent in business, he shall stand before kings."

The first work is to get around the supers and sections, which have been in use the past season, and get them in readiness for the next harvest, by scraping off all the propolis adhering to the separators or where it will come in contact with any opening and closing of the sections together, as well as any burr or brace combs which may be attached to them in any place. All of these bits of comb should be saved, as they are "rich" in wax, and to save them best, the wax-extractor should be close at hand, and all waste pieces of comb put into it during the whole season. As often as it is full, get the wax out, and have it ready to fill again.

All sections which are partly filled with honey, should have the honey extracted from them (unless you think you will need it to feed in the spring), as the honey will not correspond in color with that which the bees will put in to finish out the sections the next season. To extract this nicely, fix a shelf close to the ceiling of your room, put the sections thereon, and by keeping the room so that it is comfortable for you to work, the mercury will stand at from 85 to 90 degrees where the honey is, when by 2 o'clock in the afternoon the whole will be warmed through, so that it can be extracted as easily as in summer. These partly-filled sections, if extracted without any special pains about warming, would be ruined, and the apiarist's prospect of a good yield of section honey the next season materially lessened, for, these

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combs, when used as "baits," are better to him than money in the bank.

After the honey is extracted, these sections are to be put in the center of the super (one super for each colony you expect to work for section honey the next season), so as to secure an early commencement of work by the bees in the sections, which is of great advantage. Fill the rest of the super with sections having starters in them, or those which have been filled with extra-thin comb foundation, as you may elect, when you will pack the same nicely away, one after another, as they are thus gotten ready, so that they will be ready for use at a moment's notice next June when the honey harvest arrives.

If you do not have material enough for what sections you expect to need, this should be procured and made up, so that all which pertains to the surplus section honey shall be in readiness also. To arrive at the number we wish, I have, for years, allowed 150 one-pound sections for each colony in the spring to be worked for comb honey, and find the estimate not far out of the way. Of course, there are only a few years when I need that many; but if I was not prepared for the best yields when they come, I should lose much those years, and it is far better to carry over some empty sections in medium or poor years, than not to have the "dishes right side up when the honey was pouring down." Don't put this matter off as many seem prone to do till the harvest arrives, for if put off till then, the results almost always show a greater or less loss.

As soon as these supers are all ready for the next season, we go at the hives next, repairing and looking over all that are not occupied with the bees, and fixing them in perfect order, when they are packed away as were the supers. If any new ones are needed they are made, as well as the frames, covers, bottom-boards, stands, alighting-boards, entrance-blocks, and all that pertains to them, and the frames wired and filled with comb foundation, or with starters, just as we have elected to do.

If we decide to use starters, a strip of foundation ¾ of an inch wide is better than either more or less, as I have proven to my satisfaction, after years of experimenting, along the line of starters for brood-frames. To fasten this starter to the frame, get out a board which is the size of the inside of the frame and only half as thick, which is to be fastened to another board a little longer, and having a handle to it, so that the whole can be easily held in the left hand. Now lay the frame on the thin board and then place the strip of foundation on it, and next to the top-bar to the frame. If all has been made as it should be the strip of foundation will come in the center of the top-bar to the frame. Now tip the board at such an angle that the top-bar of the frame and the strip of foundation will form a V-shaped trough, which is to be so inclined that when the melted wax is poured in at the upper end it will immediately run down to the lower end, which (melted wax) in passing along adheres to both the frame and foundation, thus fastening the strip of foundation to the frame securely. Some of the foundation-fasteners may be a little quicker, but nothing I have tried gives the assurance of "staying qualities" which this does, and "quicker" is often worse than nothing, where the work has to be done over again, or allows a small part of the starters to fall off, thus making a "mess" of all the rest of the combs in the hive.

After the hives and frames are nicely ready and packed away for the next season, we next get out the material for shipping-cases and make them, being as liberal with these as we were with the sections, so that no "down pour" of honey will find us "napping" when we wish to prepare the same for market.

Then, we need a few introducing cages for queens, fuel for the smoker, our bee-hat and veil all in "apple pie" order, and any and all of the things which we are likely to want during the working season with the bees, should all be in readiness and just where we can put our hands on them at the time we want them, when the season for their use arrives.

In this way the wintry days are passed as pleasantly and as profitably as are those of the summer, and when spring opens we shall have nothing to do but give our whole attention to the bees. Thus we are "driving" our work, so that it seems only play to us all the while. To be unprepared when the harvest comes, is having our work *drive* us all the while, in which case there is only *work* about the whole thing, and often quite unprofitable work at that.

Borodino, N. Y.

A Demand for More Honey

BY DR. M. E. MCMANES.

Apicultural literature abounds in advice and suggestions on the proper care and management of bees to secure both quantity and quality of honey, but seems to be very weak on advice and suggestions for the disposal of the crop to the best advantage.

It is true we can easily sell our honey if we are willing to dispose of it for a very low price, but its commercial value as a food I believe to be considerably more than 8 or 10 cents a pound—the price most producers receive.

Honey is considered a luxury by many, but in my opinion, based on the medicinal and food value, honey is as much a necessity as sugar, and rightfully deserves to replace a large share of the consumption of that product. If we can increase its consumption we create more demand, and naturally can get better prices. But the question has been, "How shall we inform the general public of the true food and medicinal value of honey?"

There are two classes of professional men who by a few words can do more to create a demand for honey than all other kinds of advetrising. I refer to physicians and ministers of the Gospel. One would be surprised to know how little the majority of physicians know about honey either as a food or medicinally, to say nothing of its production. Medical books and journals contain but little on the subject, and when some of the laity suggest honey for medicine the idea is often scoffed at by the doctor, yet there are very few cases of illness that honey would not benefit.

To reach this class would be easy and inexpensive. I would suggest that our scientific writers prepare papers on the food value as well as analytical demonstrations of honey, and through the National Bee-Keepers' Association have these published in the various medical journals. When well written they will be gladly accepted by the journals, and will reach thousands of physicians who by a word here and there will create more demand for honey than can be obtained by any other means of advertising.

One point especially that could be brought out is the advantage of honey as a vehicle or adjuvant for carrying other medicines. At present, syrup, aromatic elixirs, alcohol and glycerine are used, but these are more expensive and have little or no medicinal value. For children or invalids, where sugar is denied, honey proves highly beneficial.

The second class, ministers of the Gospel, would prove nearly equal to physicians in creating a demand for honey if their attention were properly called to it. They being mostly of a philanthropic disposition do not hesitate to recommend to an ailing parishioner anything they conscientiously can. Since their duty calls them among their friends, both well and sick, they could do considerable in this line.

They also could be reached without expense by well and properly written articles placed in their religious papers. It is well known that advice from one's physician or minister goes further than from any other source.

I would suggest that this be done through the National Bee-Keepers' Association, that the articles may be properly selected and placed. The sending of a large number of articles direct to the magazines by the writer would have more of an injurious rather than beneficial effect. Then, the best articles could be sent one to each of the larger medical journals and religious papers.

Piqua, Ohio.

"The Honey-Money Stories"

This is a 64-page and cover booklet 5¾ by 8½ inches in size. Printed on enameled paper. It contains a variety of short, bright stories, mixed with facts and interesting items about honey and its use. It has 31 half-tone pictures, mostly of apiaries or apiarian scenes. It has 3 bee-songs, namely: "The Hum of the Bees in the Apple-Tree Bloom," "Buckwheat Cakes and Honey," and "The Bee-Keeper's Lullaby." It ought to be in the hands of every one not familiar with the food value of honey. Its object is to create a larger demand for honey. It is sent postpaid for 25 cents, but we will mail a single copy as a sample for 15 cents, 5 copies for 60 cents, or 10 copies for $1.00. A copy with the American Bee Journal one year —both for 80 cents. Send all orders to George W. York & Co., 118 W. Jackson, Chicago, Ill.

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How Much Honey Does a Colony of Bees Consume During a Year?

BY ADRIAN GETAZ.

In a preceding contribution I stated that a colony of bees consumes 150 pounds of honey every year. I suppose that all those who read it thought it was an extravagant estimate. I think Doolittle puts it at 60 pounds, but I don't know on what grounds he bases his opinion. I rather think that 150 pounds is an entirely too small estimate—I mean for a strong colony. Evidently the amount must vary between very wide limits, according to the strength of the colony, the climate, the duration and strength of the flow, and many other conditions. That amount can be considered as made up of several parts:

1st. To keep the bees alive.

2d. To furnish the heat necessary to carry on the work inside of the hive, especially the brood-rearing.

3d. To produce the wax.

4th. To rear the brood.

Keeping the Bees Alive.

How much does it take to keep the bees alive and at work? Just now I can find but two experiments made in that line. The first by Mr. Sylviac (L'Apiculteur, Aug., 1903). A nucleus of about ½-pound weight was wintered in a bee-house successfully. The winter happened to be very mild. The honey consumed was 0.028 gram per bee every day. (The American pound equals 452 grams.) That is enormous. There may be a mistake in the figures. But nevertheless the fact might be accounted for by considering that the bees being so few had to consume an exceptionally large amount of honey to keep themselves warm.

The other is by Mr. Dumont (L'Apiculteur, November, 1902). He kept bees in a room at the ordinary temperature without rearing brood or building comb, and found that they consumed only 0.0097 gram per day each. The average weight of the bees was 0.0988 each. That would give a daily consumption of one-tenth of the weight of the bees. Or for a colony of 40,000 bees, nearly a pound every day.

The Heat of the Colony.

The amount of honey consumed to keep the inside of the hive or the cluster sufficiently warm must be exceedingly variable, from nothing in very warm weather to probably a very large amount in cool weather, but I do not know where to find any information on the subject. I tried once to calculate it on a mathematical basis, by computing the amount of heat produced by the combustion (for it is really a combustion) of a given quantity of honey, taking into account the amount of carbon contained, but the results were too unsatisfactory.

Wax-Production.

The wax-production is another variable quantity. If a swarm, natural or artificial, has to build its brood-nest, that means something like 3 or 4 pounds of wax at least. In weighing the wax from full sections of honey, I find one ounce of wax to each section. Some one has reported only half an ounce, but I don't know whether the capping was included or not. A surplus of 4 pounds per day would require ¼-pound of wax, or at least ⅛. But the wax necessary to cap the brood, repair the combs, etc., in the broodnest, would yet have to be added, so ¼-pound is certainly a low estimate.

How many pounds of honey does it take to produce one pound of wax is the next thing to ascertain. The experiments made by feeding confined bees are not reliable. The bees were usually too few, hence a large part of the honey was consumed to keep up the temperature of the cluster. The amount consumed necessarily included what was needed to support the life of the bees. The experiments usually lasted only a few days. Now it takes the bees about 3 days to start the wax-secretion, so the first 3 days of feeding should not have been counted. Such experiments are valueless.

During 1901 and 1902 Messrs. Sylviac, Maujean, and Devauchelle (L'Apiculteur and La Revue Internationale), and others, tackled the question from another standpoint. The principle is this: During the first 2 or 3 days, after a swarm is hived, quite an amount of comb is built, but very few bees go to the field. Assuming that the few bees which go to the field bring enough to sustain the life of the swarm, assuming that the wax-scales carried by the bees when the swarm was hived are offset by what the bees may have on their bodies at the end of the 3 days, the amount of honey that the bees had in their sacs when hived may fairly represent what is necessary to produce the amount of comb built during that time. Quite a number of experiments were made, and the results were often quite wide apart.

Considerable discussion took place as to the reliability of the process and the corrections to be introduced. The upshot was that it takes from 2 to 4 pounds of honey to produce one pound of wax under such conditions.

During the discussion, Mr. Maupy made the remark that a pound of wax contains 0.82 pound of carbon (chemically speaking), while a pound of honey contains only 0.28. Hence it takes at least nearly 3 pounds of honey to furnish the carbon necessary to a pound of wax.

So far as the transformation of honey into wax is concerned, I presume that these 3 pounds are all that is needed. But the added warmth necessary is to be considered. Let us consider a colony without super. Then only the broodnest has to be kept warm. Add a super, then this super must be kept warm enough to permit wax-secreting and comb-building. This means an additional consumption of honey, which in cool weather may be considerable.

Prof. Bruner, of the National Agricultural School of Cordova, Argentina, made a specialty of wax-production (L'Apiculteur, February, 1904). The wax sells there at 54 cents a pound, while dark honey can be bought in any amount at 5 cents. The process consists in feeding the bees with the honey, cutting the combs as fast as built (except of course what is necessary for brood-rearing) and return to the bees what honey may be in the combs. It takes 68 pounds of honey to produce 10 pounds of wax. But that 68 pounds includes what the bees consume for living, brood-rearing, etc. To that should be added what the bees may bring in from the field.

Brood-Rearing.

The Hon. R. L. Taylor made some experiments to find out how much honey the bees consume to produce a pound of bees. The plan was to use 2 colonies of the same strength (ascertained by weighing the bees), let one rear the brood and take it away when capped, and the other deprived of the eggs as fast as hatched. Other precautions were taken so as to make the comparison fairly good between the surplus obtained by the 2 colonies. The result was that over 2 pounds of honey were spent to produce one pound of bees. For different reasons Mr. Taylor thinks that 2 pounds is more nearly right than the actual amount deducted from the experiment. This being the case, a colony producing 1,000 bees a day would use half a pound of honey every day to feed them.

Feeding Back.

Perhaps feeding back may give us a better insight into the question than any other means at our disposal. Here the results vary widely. Dr. A. B. Mason in a convention said that he had once obtained more honey than he had fed. At the opposite end of the row we find Niver who fed 30 pounds of honey and got 3 sections, and then quit, and stayed quit since.

The only careful experiments we have in that line are those made by the Hon. R. L. Taylor, in the years 1893, 1894, 1895, and 1896 (Bee-Keepers' Review for those years). The experiments generally lasted 4 weeks and were made in August, some began in July. Account was taken of the honey in the brood-chamber as well as of that in the sections, and careful investigations made. The honey consumed by the bees varied generally between 1 1-3 and 2 pounds daily; in one case it went as high as 2 2-3 pounds.

These figures are rather too low than too high. The colonies were small, only one Heddon story, except in 1895 when 2 stories were used. No account is taken of what honey may have been brought from the field. In a few cases, the increase of weight of the brood-nest which was counted as honey may have been to some extent due to an excess of brood. All these considerations, if taken into account, would increase the amount of honey consumed by the bees. It may be added that the bees, when well fed, usually neglect the field-work almost entirely.

Conclusions.

Taking all into consideration, it seems to me that during the working season a good colony must consume at least

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1½ pounds of honey every day. In my locality that means 4 months, or 180 pounds. During the latter part of the summer and the fall, the work does not cease entirely. Allowing only half a pound a day for about 3 months, we would have 45 pounds. Wintering outdoors, in more or less open winters, with brood reared even in January at least occasionally, the winter months require not less than 2 pounds. Total: 250 pounds! Provided no mistake has been made in the above estimates. However, I would very much like to know exactly, if it can be done.

Knoxville, Tenn.

Send Questions either to the office of the American Bee Journal or to
DR. C. C. MILLER, Marengo, Ill.
Dr. Miller does *not* answer Questions by mail.

Late Laying of Queen for Young Bees in Winter.

What is the best method of having the queen lay late in the fall so as to have all young bees to winter with the queen?

New York.

Answer.—The two principal factors that keep up late laying are a honey-flow and warm weather. If you have no late honey-flow, you can to a degree replace it by daily feeding a small amount of thin syrup. I don't know of any way you can mend the weather if it should be cold.

Changing Supers.

Will it pay in dollars and cents, and be less work, to discard my old 4¼ bee-way supers and buy new supers to hold plain sections?

I have 125 colonies. New York.

Answer.—I don't know. If you have a market in which you can get a much better price for the plain sections, then it ought to pay; not otherwise. But it is not always necessary to throw away your old supers and get new. I used plain sections in the same supers in which I used the 4¼ bee-way. I also used plain sections in supers specially made for them. After trying them on a fairly liberal scale, I have concluded that for me it is better to use the 4¼ bee-way. I cannot answer for you.

Late Pollen—Divisible Hive.

1. What do bees do with pollen that they carry in at this time of the year (Oct. 19)?

2. Is a divisible brood-chamber hive a good hive to winter bees in?

3. If you set an old hive over a new empty hive with one-inch foundation starters, what will be the result? Would the first set of frames be large enough for a brood-nest in a divisible hive? New York.

Answers.—1. They eat some of it and keep the rest till spring.

2. Reports of successful wintering in such hives have been made.

3. If the bees get the upper hive filled with honey, it will crowd them down so the lower hive will be filled, and the brood-nest will be below. If a divisible chamber be put below, of course the combs will be all right for such a hive; otherwise not. But you must remember that using only an inch starter in brood-frames will be an expensive business, for the likelihood is that the bees will build entirely too much drone-comb.

Cellar or Second-Story for Bees in Winter—Best Super Arrangement.

1. I have 2 colonies of bees which I wish to winter in the cellar. Our cellar is under ground on the north and east. At the west is a furnace cellar, and at the south is a room we use for a wood-shed. We keep potatoes and vegetables in it. Do you think that would be all right for bees? Or how would a room in the second story be?

2. I am going to make my own hives so I would like to know the inside measurement of an 8 and a 10 frame hive.

3. I am going to run for comb honey. Which is best with the plain 4x5 sections—the plain section-holder or the T-super?

I am a subscriber of the American Bee Journal and like it very much. I started this fall by finding 3 bee-trees. Two I united so that leaves me 2 colonies to start with.

Iowa.

Answers.—1. In the second story would probably be bad, but the room in which you keep potatoes may be all right. For best results the temperature should remain with some degree of evenness at about 45 degrees, with the air as pure as possible. The furnace cellar may do if the air is constantly fresh and not above 50 or 60.

2. An 8-frame dovetailed hive, inside, is 18 5-16 long, 9-2 deep, and 12⅛ wide. That allows room for a dummy beside the 8 frames spaced 1⅜ inches from center to center. Add to that 2¾ inches for 2 more frames, and you have 14⅞ for the width of a 10-frame hive. However, 10-frame hives are usually made only 14 inches wide, the dummy being omitted.

3. My own preference is for the T-super.

Unpainted Hives—Saltpeter Rags—8 or 10 Frame Hive?—Equipment for Extracted Honey—Introducing Queens.

I notice in Gleanings Mr. Doolittle favors unpainted hives. Do experiments show that bees do better in unpainted hives, or is it just a notion? Can you give any reason why bees will not do as well in painted hives as in unpainted ones?

2. Explain how you prepare saltpeter rags for smoker-fuel.

3. All my hives are 8-frame, but as I can not give so much attention to the bees, I was thinking that all of the bees I bought in the future would be in 10-frame hives. Can you use the supers of an 8-frame hive on a 10-frame hive, and will the frames of an 8-frame hive fit a 10-frame hive? Would you advise me to get 10-frame hives from now on?

4. What is the necessary equipment to run for extracted honey? Can comb-honey supers be used for extracting frames?

5. When you introduce a new queen, how would it do to remove the old queen and all of the brood? Would they accept a new queen any better if they had no queen and no brood whatever from which to rear one?

Virginia.

Answers.—1. I think Mr. Doolittle's idea is that moisture will pass through unpainted walls better than through painted ones, allowing hives to dry out better, preventing dampness and mold. I don't know that any conclusive experiments have been made on the subject. I know that one winter a painted hive showed more dampness and mold in my cellar than unpainted hives, but that was on a small scale. My faith in Mr. Doolittle's view, together with the fact that at any time I might throw away my hives to adopt others, made me give up painting hives years ago.

2. I take a 2-gallon stone crock perhaps half full of water, put in it half a pound or less of saltpeter, fill up with cotton rags, lift the rags out and let the water drain back into the crock through a colander or leaky pan, spread the rags out on the grass for the sun to dry, and they're ready to use. I use them only to start the fire, filling up the smoker with hardwood chips or some other fuel.

3. A super for an 8-frame hive will work nicely on a 10-frame hive if you simply cover the open space with a piece of board. The frames of an 8-frame and a 10-frame hive are alike, although of course there may be different frames in different kinds of hives. Unless you give close attention, better have 10-frame hives. Indeed it is possible they may be better, anyhow.

4. About all you need different from your comb-honey outfit is an extractor, uncapping-knife, extracting-combs and supers, and containers. It depends on the size of your comb-honey-supers whether they can be made over into extracting-supers.

5. The removal of the old queen is imperative, and the removal of the brood will help to make the bees accept a new queen.

Better Crop Than Usual.

The honey crop in this locality is somewhat better than last year, about 50 pounds per colony being the average—last year nothing. In extracted honey I got about 1800 pounds of white and 700 pounds of buckwheat, and 100 pounds of comb honey, from 37 colonies, spring count. I have 70 colonies to put into winter quarters, having increased from 37.

Westbrook, Ontario. A. M. Bridge.

Honey from Sunflowers.

I see on page 333 a complaint in regard to sunflowers. The sunflower gives out nectar at night, and the bees work on them before it is clear daylight, as I have found by watching the bees at that early hour. The honey forms on the sunflowers in large drops, and as many other insects work upon the sunflowers besides bees, the bees try to get to work as soon as possible in the morning. The bees do not work on the flowers after sunrise, but carry water to thin the sunflower honey. That is the case here.

Kansas.

Device for Cappings—Handling Extracted Honey.

There is one thing that I am particularly interested in, and I feel sure that many others are likewise interested. That is a device for taking care of cappings in a small way so as to save as much of the honey as possible in a marketable condition, and dispose of the cappings with as little muss and smear as possible. I run mostly for comb honey, and not having an extracting house, the extracting is done in a room in the house we live in. I have about a bushel of cappings each extracting, and would have more if the combs were uncapped deep, which I might do later on. I would like to dispose of them without having them sitting around in dishpans, etc., and draining through a colander a few at a time, having to keep them out of reach of the bees until a convenient time to render them into wax, making too many dirty vessels and too much loss of honey, also too much time spent for the amount of extracting done. If any one can describe a device to meet the above requirements, which any one can have made near home this winter, or make himself at moderate expense, and which will not take up a large amount of room, to take care of the cappings from 500 pounds of honey at one extracting with a 2-frame machine, giving system of use if necessary, I think it will be a help to many small producers of extracted honey.

Plans and devices for straining the honey and putting it up in mason jars conveniently might also be of value to many other small

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producers, as well as myself, who do not wish to go to the expense of putting up special buildings, etc., for 500 or even 1000 pounds of extracted honey. For I think many of these smaller producers retail their honey in mason jars.

J. R. BOGART.

Millville, Pa.

[Who will help out in these matters?—EDITOR.]

Glass-Side Supers.

I put a glass in one side of all my supers—strips of glass that I get at the hardware store, 1½ to 2 inches wide and 12 to 14 inches long. I lay the glass on the outside of the super, mark around it, saw it out on a bevel so the inside is smaller than the outside, let the glass in even on the inside and imbed it. Plane the piece of wood that comes out of it till it fills the hole tight and a small nail at each end makes it handy. You can have 3 or 4 supers on a hive and look into the bottom one without disturbing the bees. I would not have a super without a glass.

An old case-knife about 2 inches long, ground to a point, and a brick-layer's painting-trowel, are the finest tools I can find for cleaning sections. I make all my supers and put the glass in before I nail them up.

Monticello, Iowa, Nov. 9. O. D. FRENCH.

A Brief Report.

My report for 1908 is as follows: Spring count, 5 colonies; increased to 11 colonies; harvest, 425 pounds of comb honey.

Racine, Wis., Nov. 8. OTTO FEHLBERG.

Best Season Ever.

The honey season this year was the best we ever had. I got about 500 pounds from 4 colonies. One Italian colony stored 120 pounds. My bees never showed a sign of swarming. I never could have had such good success if it were not for the American Bee Journal. D. H. CATHMAN.

Forest City, Ill., Nov. 5.

Bees Did Well.

Bees have done well this season. I started out with 8 colonies last spring, and to date have 16, and have sold $65 worth of honey. I am sure I wouldn't have done so well without the aid of the bee papers and books. WALTER M. ADEMA.

Berlin, Mich., Nov. 18.

Fair Year for Bees.

We had a fair year for the bees. I took about 900 pounds of honey from 8 colonies, spring count, and increased to 20 colonies. We are using 10-frame hives of standard make, and run for extracted and comb honey. Our best colony gave a little over 200 pounds of honey, about two-thirds of it being extracted; but they had to build their own combs.

ROY U. AND LESTER S. GILLETTE.

Fostoria, Iowa, Nov. 20.

Good rains, But Too Late.

We have had good rains, but too late for the bee-business. I have taken more honey the last 2 weeks than during all the rest of the year. The bees seem to be particularly rich in stores. I am enthused over the bee-business. There is a man near me making some log hives for the bees. I regret this.

R. B. PERRY.

Greenfield, Tenn., Nov. 10.

Wintering Bees—Requeening.

I see so much in the American Bee Journal about bee-moth and winter losses. I have had from 10 to 30, and for a while as high as 60 colonies of bees in the yard, and now I want to tell you of some things I don't look for—dead bees in spring. And I never went to a hive and looked for bee-moths. I kept my bees in organ boxes for a long time, packed 6 colonies in a box. Then made a set of boxes 6 inches larger than the hive. I put that box over the hive when it begins to get cool weather. Then about November 15 I pack them with straw and chaff. I think 2 or 3 inches is better than 6 inches. The sun will dry it on the outside and the bees on the inside. Now those boxes stand until the weather settles in the spring. If I think best I take out the packing and let them stand until I want to put on the supers. The boxes cost about 40 cents each. They are covered with tar paper, well tacked on, and then one heavy coat of oil and ochre.

As for my honey crop I got an average of 113½ pounds of comb honey to the colony. I had 10 colonies and got 6 swarms.

This is my way to requeen: When I get a first swarm, if the queen is 3 years old, I kill her and save the next one. While they are out I go through the hive and remove all queen-cells but one, and before she is laying they are out of the notion of swarming. I think that is the best plan for me. I don't hive all swarms that come off. I would rather have 10 colonies running over with bees than 20 that the moth would take.

B. F. SPAFFORD.

Morning Sun, Iowa, Nov. 20.

1144 Lbs. Extracted from Colony and Its Increase.

We had only a scant half crop of honey this season in this part of the country. Bees are going into winter quarters in fine condition. Honey is in good demand here at 6 to 8 cents for extracted and 15 cents for comb honey in 4¼x4¼ sections. I have shipped from Salt Lake City to Washington, D. C., this season, and can't supply the demand. I think Uinta County, Utah, can beat the world in fine honey. For instance, I have shipped honey to Salt Lake City, Utah; Denver, Colo.; Kansas City, Mo.; Pennsylvania; Washington, D. C.; and to a great many other places, just for family use, in quantities from one to 300 pounds.

In 1907 I took from one colony and the increase, 1144 pounds of extracted honey, and if there has ever been any one who has done any better than that I wish to learn his name and address. G. W. VANGUNDY.

Jensen, Utah, Oct. 31.

A Beginner's Experience with Bees.

I am a beginner in bee-culture, and first took interest in bees last spring. Before I lived on the farm I lived in Lorain, Ohio, and about a block away from us lived a bee-keeper, but I took no interest in bees then. From Lorain my father and family moved to a 93-acre farm near Seville, Ohio, and the farmer that lived on our farm kept bees, and when he moved he left the bees. He said he could not move them because the combs would break. He left a few empty hives and told me how to hive a swarm. I hived 5 swarms that season, and then I began to ask more questions about them and learned that about 7 miles from us was a bee-keepers' supply company. I got $15 worth of honey this year from the 5 colonies. Five dollars' worth I sold and bought a frame hive and other supplies.

I bought more bees and set them all near a car-line. One morning I found all my bees and hives stolen. I looked far and wide but could not find them. Then I bought 5 more colonies, which I have now. I am now taking a course in bee-keeping, for which I paid $5, and have learned lots more than I ever thought was in bee-keeping. Next week I believe I will take my examination. My father said if I made a good examination he would buy more bees for me next spring.

I take 2 bee-papers and I like them both.

Seville, Ohio, Nov. 9. JOHN SUGAJSKI.

Uniting Two Colonies of Bees.

Although very dull on the subject of bee-keeping, I was amused at some of the questions in the American Bee Journal. It is not to play the part of a critic that prompts me to write, but I feel that my own experience in uniting two different colonies of bees is about as good as some others. So I hereby give it, hoping to help the brotherhood in so doing:

When I decide upon the 2 colonies that I wish to unite, I kill the less desirable queen and move that hive nearer to the one on which I will put it, or the one with a queen. After I get it quite near, some cool evening I quietly put the queenless colony on top of the one with a queen. I do this with as little stirring up of the bees as possible, and the work is done. No smoking nor interchanging of frames. I stop all hive-entrances but the one to the lower hive. By the following day the 2 colonies that have kept quietly to themselves during the night will meet a few at a time and the odor of the lower hive and its queen will have so permeated the upper story that the bees don't disagree at all. I have no trouble in handling my bees, which are golden Italians, in this way. I can not say it will work in all cases, and with other kinds of bees.

In the spring I take all the brood from the top story, if there be any, and put all with sufficient honey into the lower story, removing the top story, putting on sections with queen-excluder. In this way I have a large force of mature workers to start with, which means a whole lot. I use this upper hive with its dry combs or partially filled combs for early swarms, which can do more work in sections with the start thus given them.

L. L. BROCKWELL.

Edlow, Va., Nov. 17.

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E. Illinois and W. Indiana

A meeting of the bee-keepers of Eastern Illinois and Western Indiana, is called at the Court House in Watseka, Ill., December 15 and 16, 1908, at 10 o'clock a. m. A good program, and question-box will be provided. Other business of importance will be acted upon. All who are interested please attend.

J. H. ROBERTS, *Pres.*

RAY ENSINGER, *Sec.*

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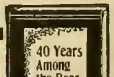

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Engravings For Sale

We are accumulating quite a stock of engravings that have been used in the American Bee Journal. No doubt many of them could be used again by bee-keepers in their local newspapers, on their stationery, or in other ways. Also, if we can sell some of them it would help us to pay for others that we are constantly having made and using in our columns. If there is any of our engravings that any one would like to have, just let us know and we will quote a very low price, postpaid. Address,

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Honey as a Health-Food

This is a 16-page honey-pamphlet intended to help increase the demand for honey. The first part of it contains a short article on "Honey as Food," written by Dr. C. C. Miller. It tells where to keep honey, how to liquefy it, etc. The last part is devoted to "Honey-Cooking Recipes" and "Remedies Using Honey." It should be widely circulated by those selling honey. The more the people are educated on the value and uses of honey, the more honey they will buy.

Prices, prepaid—Sample copy for a 2-cent stamp; 50 copies for 90 cents; 100 copies for $1.50; 250 copies for $3.00; 500 for $5.00; or 1000 for $9.00. Your business card printed *free* at the bottom of front page on all orders for 100 or more copies. Send all orders to the office of the American Bee Journal.

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Honey and Beeswax

CHICAGO, Nov. 21.—The volume of business is below the normal, yet there is some honey selling all the time; it seems as though people were going to use more of it during the winter than has been the case for the last few years, but are going to buy in small quantities, reasoning that they can get it as needed. Prices are steady at 13 to 14c for A No. 1 to fancy, other grades ranging from 1 to 3c per pound less. Extracted white ranges from 7 to 8c according to quality, flavor and style of package. The amber grades from 6 to 7c. Beeswax is steady and selling upon arrival at 30c, if free from impurities. R. A. BURNETT & Co.

INDIANAPOLIS, Nov. 21.—While the prices are not high, the demand for honey has never been better—a fact that can be attributed to the quality of goods now on our market. This is a white clover district, and our market is almost free from honey from other sources. Producers are offering fancy white comb at 12¼c; No. 1 white comb at 12c. White clover extracted, in 5-gallon cans, at 7c. Some amber honey is being offered, but the demand is not sufficient to establish a price. Beeswax is steady at 28c cash, or 30c in exchange for merchandise.
WALTER S. POUDER.

CINCINNATI, Nov. 21.—The market for comb honey is more active, and there are some large lots moving. There will be no big prices, due to the fact that there is considerable old honey left from last year. No. 1 white comb honey is selling at 14 and 15c in small lots. Dark or off grades are not selling at any price—there is practically no demand for them. Amber honey is in good demand at 6½ to 7c; white clover honey is selling at 8c in 60-lb. cans; water-white sage, fancy at 9c. Beeswax is in fair demand at 30c. The above quotations are what we are selling at. C. H. W. WEBER.

NEW YORK, Nov. 23.—The demand is fair for comb honey, especially so on fancy and No. 1 white stock, and also for fancy buckwheat. Receipts are not heavy, but sufficient to meet demand. We quote fancy white 14 to 15c; No. 1, 13c; amber, 12c; and buckwheat, 10 to 11c. There is also a fair demand for extracted, with sufficient supply, and we quote California white sage 9c; light amber, 8c; New York State white, 8 to 8 1-2c; dark, 6 to 7c; Southern in barrels, 60 to 75c per gallon, according to quantity. Beeswax, quiet at 29 to 30c.
HILDRETH & SEGELKEN.

LOS ANGELES, Nov. 27.—Water-white extracted, 8c; white, 7 1-2c; light amber, 7c; amber, 5c. Fancy white comb, 16c; No. 1 white, 15c; fancy light amber, 14c; No. 1 light amber, 12 1-2c. H. J. MERCER.

PHILADELPHIA, Nov. 25.—The supply of honey in this market is fully equal to the demand, but we find bee-keepers are holding back their shipments of honey for better prices. Market is not very active, as trade has not fully recovered from the depression preceding the presidential campaign. We quote: Fancy white comb honey, 15 to 16c; No. 1, 14 to 15c; amber, 12 to 13c; white extracted, 7 to 8c; amber, 5 1-2 to 6 1-2c. Beeswax, 28c. WM. A. SELSER.

KANSAS CITY, MO., Nov. 21.—Market is well supplied with comb honey. Demand fairly good, and prices as follows: Fancy comb in 24-section cases at $2.90 to $3.00 per case; No. 1 at $2.75; No. 2 $2.50; extracted 7 to 8c. Beeswax, 28c.
C. C. CLEMONS & Co.

ZANESVILLE, OHIO, Nov. 21.—The generally quiet condition of business continues to affect the demand for honey. Both comb and extracted are moving rather slowly, though some revival is anticipated between now and the holidays. Most of the honey now on this market is of very good quality. The jobbing trade are offering producers 12 1-2 to 13c for fancy white comb, and 12 to 12 1-2c for No. 1, and for best clover extracted 7 to 8c. No demand for off grades. Practically no change in wholesale market since last report. Beeswax brings on arrival 29 to 30c cash, or a cent more in exchange for merchandise.
EDMUND W. PEIRCE.

HONEY AND BEESWAX

When consigning, buying, or selling, consult

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199 South Water St. Chicago, Ill

First California Bee Institute

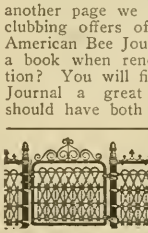
I have received from the Agricultural Department of the University of California what will probably be the program of the institute for the bee-keepers of the Central Coast Counties, to be held at Monterey, Dec. 28 and 29, 1908. Mr. Ralph Benton, in charge of Apiculture at the University, has been assigned to conduct the institute. Papers on various bee-topics are to be prepared, by the conductor; K. M. Hunken, of Monterey; M. C. Richter, of the University; V. Townsend, of Solidad, and undersigned—some 11 papers in all. Discussions will follow the reading, and the question-box will be a feature, too.

Institutes will follow in January in Ventura and Los Angeles counties.

Oakland, Cal. W. A. PRYAL.

Books for Bee-Keepers

Have you a good bee-book? Many bee-keepers do not have. And that is where they make a big mistake. A bee-paper cannot take the place of a good bee-book. The paper is a splendid thing to read *in connection with the book.* On another page we make some generous clubbing offers of bee-books with the American Bee Journal. Why not order a book when renewing your subscription? You will find the book and the Journal a great combination. You should have both of them.



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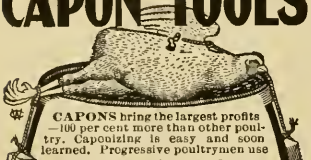

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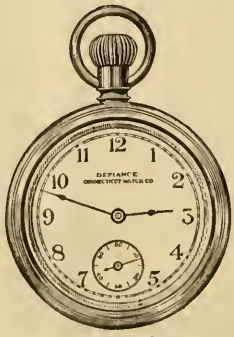

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